

ORTHOLOGIC CORP  
Form S-3/A  
September 22, 2006

**Table of Contents**

**As filed with the Securities and Exchange Commission on September 22, 2006**

**Registration No. 333-133273**

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**AMENDMENT NO. 1  
TO  
FORM S-3  
REGISTRATION STATEMENT  
Under  
The Securities Act of 1933**

**ORTHOLOGIC CORP.**

(Exact name of registrant as specified in its charter)

**DELAWARE**

(State or other jurisdiction of incorporation or organization)

**86-0585310**

(I.R.S. Employer Identification No.)

**1275 West Washington Street  
Tempe, Arizona 85281  
(602) 286-5520**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**John M. Holliman, III, Executive Chairman  
and principal executive officer  
OrthoLogic Corp.**

**1275 West Washington Street  
Tempe, Arizona 85281  
(602) 286-5520**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copy to:

**Steven P. Emerick, Esq.  
Quarles & Brady Streich Lang, LLP  
One Renaissance Square, Two North Central Avenue  
Phoenix, Arizona 85004  
(602) 230-5517**

**Approximate date of commencement of proposed sale to the public:** From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o \_\_\_\_\_

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o \_\_\_\_\_

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. o

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. o

**The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.**

---

**Table of Contents**

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting an offer to buy these securities in any state where the offer, solicitation or sale is not permitted.

**PROSPECTUS**

**SUBJECT TO COMPLETION, DATED SEPTEMBER 22, 2006  
ORTHOLOGIC CORP.  
1,666,660 SHARES OF COMMON STOCK**

This prospectus relates to the sale of up to an aggregate of 1,666,660 shares of our common stock by PharmaBio Development Inc. (d/b/a NovaQuest) ( NovaQuest ). Such shares consist of 1,262,531 shares of common stock and 404,129 shares of common stock underlying warrants. NovaQuest is sometimes referred to in this prospectus as the selling security holder. The prices at which NovaQuest may sell the shares will be determined by the prevailing market price for the shares or in negotiated transactions. We will not receive any of the proceeds from the resale by the selling security holder of any of the securities covered by this prospectus, however, we have received \$3.5 million from the sale of shares under a Common Stock and Warrant Purchase Agreement we have entered into with NovaQuest. We will also receive the exercise price of the warrants described in this prospectus (to the extent that the selling security holder does not utilize the cashless exercise feature, if provided).

Our common stock is listed on The NASDAQ Global Market, under the symbol OLGC. Our preferred stock is not listed or quoted on any exchange. On September 19, 2006, the closing price of our common stock on The NASDAQ Global Market was \$1.36 per share.

**You should carefully consider the risk factors described under the heading Risk Factors and Forward-Looking Statements in this prospectus, in addition to any risk factors which may be included in any supplement, or which are incorporated by reference into this prospectus.**

**Investing in our securities involves a high degree of risk. Before buying any of our common stock, you should carefully read the discussion of material risks of investing in our securities under the heading Risk Factors and Forward-Looking Statements beginning on page 6 in this prospectus.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of the disclosures in this prospectus. Any representation to the contrary is a criminal offense.**

The date of this prospectus is \_\_\_\_, 2006.

---

**TABLE OF CONTENTS**

<u>ABOUT THIS PROSPECTUS</u>	Page 2
<u>PROSPECTUS SUMMARY</u>	3
<u>RISK FACTORS AND FORWARD-LOOKING STATEMENTS</u>	6
<u>THE COMPANY</u>	18
<u>MATERIAL CHANGES</u>	24
<u>THE NOVAQUEST TRANSACTION</u>	25
<u>USE OF PROCEEDS</u>	26
<u>SELLING SECURITY HOLDER</u>	27
<u>PLAN OF DISTRIBUTION</u>	28
<u>DESCRIPTION OF WARRANTS</u>	30
<u>DESCRIPTION OF CAPITAL STOCK</u>	33
<u>LEGAL MATTERS</u>	35
<u>EXPERTS</u>	35
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	35
<u>INFORMATION INCORPORATED BY REFERENCE</u>	36
<u>EX-4.5</u>	
<u>EX-4.6</u>	
<u>EX-4.7</u>	
<u>EX-10.4</u>	
<u>EX-23.1</u>	

\* \* \*

**ABOUT THIS PROSPECTUS**

You should rely only on the information contained or incorporated by reference in this prospectus. We have not, and the selling security holder has not, authorized anyone to provide you with different information. No one is making offers to sell or seeking offers to buy these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information contained in this prospectus is accurate as of the date on the front of this prospectus only and that any information we have incorporated by reference is accurate as of the date of the document incorporated by reference only, regardless of the time of delivery of this prospectus or any sale of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

The information in this prospectus may not contain all of the information that may be important to you. You should read the entire prospectus as well as the documents incorporated by reference into this prospectus before making an investment decision. To obtain additional information that may be important to you, you should also read the exhibits to the registration statement of which this prospectus is a part and the additional information described below under

the heading Where You Can Find More Information.

When used in this prospectus, the terms OrthoLogic, we, our, us and the Company refer to OrthoLogic Corp.

The address and telephone number of our principal executive offices are 1275 West Washington Street, Tempe, Arizona 85281; telephone (602) 286-5520.

**Table of Contents**

**PROSPECTUS SUMMARY**

*This summary highlights selected information from this prospectus and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, including the risks of investing discussed under Risk Factors and Forward-Looking Statements beginning on page 6, the information incorporated by reference, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.*

**Our Company**

OrthoLogic is a biotechnology company focused on the development and commercialization of the novel synthetic peptide Chrysalin® (TP508) in two lead indications, both of which represent areas of significant unmet medical need fracture repair and diabetic foot ulcer healing. Chrysalin, or TP508, is a 23-amino acid synthetic peptide representing a receptor-binding domain of the human thrombin molecule, a naturally occurring agent responsible for blood clotting and initiating the natural healing cascade of cellular events responsible for tissue repair both soft tissue and bone.

**Recent Events**

On August 29, 2006, OrthoLogic Corp. reported the results of preliminary interim analysis of data from its Phase 2b dose-ranging clinical trial of the novel synthetic peptide Chrysalin® (TP508) in unstable, displaced distal radius (wrist) fractures and termination of the Phase 2b study. In the dataset of 240 subjects as a group that were evaluable in the Phase 2b interim analysis, treatment with Chrysalin did not demonstrate benefit compared to placebo in the primary efficacy endpoint of time to removal of immobilization. Individual findings of efficacy in secondary endpoints, including radiographic healing, were not seen in this interim analysis. Further, no dose response relationship was observed. The trial met the pre-specified safety endpoint by demonstrating no significant difference in the incidence of adverse events between the Chrysalin and placebo groups.

On April 5, 2006, James M. Pusey, MD resigned as our President and Chief Executive Officer and as a Class I director of the company. John M. Holliman, III, a director of OrthoLogic since September 1987 and Chairman of the Board of Directors since August 1997, assumed the title of Executive Chairman on that date. In that position, Mr. Holliman serves as our principal executive officer and leads our business and corporate strategic activities. Randolph C. Steer, MD, Ph.D. was named our President on April 5, 2006, and is responsible for directing our strategy and operations in all clinical development and regulatory areas.

On March 15, 2006, we reported results of our Phase 3 fracture repair human clinical trial. For the primary endpoint, immobilization removal, no statistically significant difference between placebo and a single injection of Chrysalin were achieved. Consistent with the Phase 1/2 human clinical trial results, a statistically significant difference for a secondary endpoint, radiographic evidence of radial cortical bridging, was achieved. However, no statistically significant difference was noted in the study's other secondary endpoints. On March 15, 2006, we temporarily halted our Phase 2b fracture repair dosing clinical trial to perform an interim analysis of the data of the subjects enrolled to that date.

On February 23, 2006, we entered into an agreement to purchase certain assets and assume certain liabilities of AzERx, Inc., in exchange for \$390,000 in cash and 1,355,000 shares of our common stock. The transaction closed on February 27, 2006. Under the terms of the agreement, we acquired an exclusive license for the core intellectual property relating to AzERx's lead compound, AZX100, a 24-amino acid peptide. AZX100 is currently being investigated for several applications, including the treatment of vasospasm associated with subarachnoid hemorrhage, prevention of keloid scarring, and treatment of asthma. We will continue to develop the new class of compounds in the field of smooth muscle relaxation called Intracellular Actin Relaxing Molecules, or ICARMs, based on the AZX100 technology.

We continue to explore other biopharmaceutical compounds that can complement our research activity internally and broaden our potential pipeline for successful products.

**Table of Contents****The Offering**

On February 27, 2006 (the Closing Date ), we closed the initial transactions relating to our Common Stock and Warrant Purchase Agreement (the Purchase Agreement ) dated February 24, 2006 with PharmaBio Development Inc. (d/b/a NovaQuest) ( NovaQuest ), which provides for the purchase of shares of our common stock in three tranches together with the issuance of accompanying warrants to purchase shares of our common stock (the Initial Class A Warrant, the June Class A Warrant, and the September Class A Warrant ). We are also parties to an Amended and Restated Class B Warrant Agreement (the Class B Warrant ), an Amended and Restated Class C Warrant Agreement (the Class C Warrant ) and an Amended and Restated Class D Warrant Agreement (the Class D Warrant ) with NovaQuest to purchase in the aggregate up to 240,000 shares of our common stock at \$1.91 a share (the Class B Warrant, Class C Warrant and Class D Warrant are collectively referred to in this prospectus as the Milestone Warrants ). On July 3, 2006 we closed the second tranche and we have elected not to complete the third proposed tranche, including the issuance of the September Class A Warrant.

All of the shares being offered pursuant to this prospectus are being sold by the selling security holder. See Selling Security Holder later in this prospectus.

We are obligated to file a registration statement to cover resale of the shares issued on the Closing Date, the additional shares we elected to issue on July 3, 2006 pursuant to the Purchase Agreement, as well as the shares to be issued upon exercise of the Initial Class A Warrant, the June Class A Warrant and the Milestone Warrants (collectively referred to in this prospectus as the Warrants ).

Issuer	OrthoLogic Corp.
Common stock offered in this prospectus	1,262,531 shares as of September 22, 2006
Common stock underlying warrants offered in this prospectus:	
Shares underlying Initial Class A Warrant	The Initial Class A Warrant, dated February 24, 2006, is fully vested and entitles the selling security holder to purchase 46,706 shares of our common stock at \$6.39 per share.
Shares underlying June Class A Warrant	The Additional Class A Warrant, dated June 30, 2006, is fully vested and entitles the selling security holder to purchase 117,423 shares of our common stock at \$1.91 per share.
Shares underlying Class B Warrant	The Amended and Restated Class B Warrant, dated February 24, 2006, and amended and restated as of June 30, 2006, entitles the selling security holder to purchase up to 80,000 shares of our common stock at \$1.91 per share. The Class B Warrant will vest based on the achievement of a milestone identified in the Class B Warrant.
Shares underlying Class C Warrant	The Amended and Restated Class C Warrant, dated February 24, 2006, and amended and restated as of June 30, 2006, entitles the selling security holder to purchase up to 80,000 shares



of our common stock at \$1.91 per share. The Class C Warrant will vest based on the achievement of a milestone identified in the Class C Warrant.

Shares underlying Class D Warrant

The Amended and Restated Class D Warrant, dated February 24, 2006, and amended and restated as of June 30, 2006, entitles the selling security holder to purchase up to 80,000 shares of our common stock at \$1.91 per share. The Class D Warrant will vest based on the achievement of a milestone identified in the Class D Warrant.

Use of proceeds

We will not receive any of the proceeds from the resale by

4

---

**Table of Contents**

Issuer	OrthoLogic Corp. the selling security holder of any of the securities covered by this prospectus, however, we have received \$3.5 million from the initial sale of shares under the Purchase Agreement. We will also receive the exercise price of the warrants described in this prospectus (to the extent that the selling security holder does not utilize the cashless exercise feature, if provided). We intend to use the net proceeds we received from the sale of securities to the selling security holder for general corporate purposes, including capital expenditures, working capital needs, current and future clinical trials of our drug candidates, as well as other research and drug development activities.
The NASDAQ Global Market symbol	Our common stock is listed on The NASDAQ Global Market under the symbol OLGC. The Warrants are not, and will not be, listed on any exchange or quoted on any market.
Risk Factors	You should carefully consider the information under Risk Factors and Forward-Looking Statements included in this prospectus beginning on page 6 so that you understand the risks associated with an investment in our securities.
Registration Rights	We agreed to file a registration statement with respect to the shares of common stock issuable upon exercise of the Warrants, as well as other securities issued to NovaQuest as described in this prospectus. Subject to certain suspension periods, we are obligated to use our best efforts to have the registration statement covering these securities declared effective as promptly as practicable following the filing of the registration statement, and to keep it effective until the earlier of: (i) the sale under the registration statement of all of the shares of common stock covered by the applicable registration rights agreement; and (ii) such date as all remaining unsold shares of common stock covered by the applicable registration rights agreement can be sold by the selling security holder without restriction pursuant to the requirements of Rule 144 promulgated

under the Securities Act.

Following the effective date of the registration statement, in certain circumstances, we may suspend the selling security holder's use of the registration statement to resell its securities for up to 60 days (which need not be consecutive) in any twelve month period. See Description of Warrants Registration Rights.

5

---

**Table of Contents****RISK FACTORS AND FORWARD-LOOKING STATEMENTS****Risks Related to Our Business**

*We are a biopharmaceutical company with no revenue generating operations and high investment costs.*

We expect to incur losses for a number of years as we expand our research and development projects. There is no assurance that our current level of funds will be sufficient to support all research expenses to achieve commercialization of any of our product candidates. On November 26, 2003, we sold all of our revenue generating operations. We are now focused on developing and testing the product candidates in our Chrysalin Product Platform and have allocated most of our resources to bringing these product candidates to the market. However, on February 27, 2006 we acquired the rights to AZX100, and we also intend to continue preclinical activities on AZX100 in 2006. We may invest in other peptide or small molecule-based therapeutics in the future, but there can be no assurance that opportunities of this nature will occur at acceptable terms, conditions or timing. We currently have no pharmaceutical products being sold or ready for sale and do not expect to be able to introduce any pharmaceutical products for at least several years. As a result of our significant research and development, clinical development, regulatory compliance and general and administrative expenses and the lack of any products to generate revenue, we expect to incur losses for at least the next several years and expect that our losses will increase as we expand our research and development activities and incur significant expenses for clinical trials. Our cash reserves, including the cash received from the sale of our bone growth stimulation device business in November 2003, are the primary source of our working capital. There can be no assurance that our cash resources will be sufficient to cover our future operating requirements, or should there be a need, other sources of cash will be available, or if available, at acceptable terms.

We do not expect to receive any revenue from product sales until we receive regulatory approval and begin commercialization of our product candidates. We cannot predict when that will occur or if it will occur.

We caution that our future cash expenditure levels are difficult to forecast because the forecast is based on assumptions about the number of research projects we pursue, the pace at which we pursue them, the quality of the data collected and the requests of the FDA to expand, narrow or conduct additional clinical trials and analyze data. Changes in any of these assumptions can change significantly our estimated cash expenditure levels.

***Our product candidates are in various stages of development and may not be successfully developed or commercialized.***

If we fail to commercialize our product candidates, we will not be able to generate revenue. We currently do not sell any products. Our product candidates are at the following stages of development:

Acceleration of Fracture Repair	Phase 3 / Phase 2b human clinical trials
Diabetic Foot Ulcer Healing	Phase 1/2 human clinical trials
Spine Fusion	Phase 1/2 human clinical trials
Cartilage Defect Repair	Late stage pre-clinical trials
Tendon Repair	Early stage pre-clinical trials
Cardiovascular Repair	Pre-clinical trials
Dental Bone Repair	Pre-clinical trials
AZX100	Pre-clinical testing

We are subject to the risk that:

the FDA finds some or all of our product candidates ineffective or unsafe;

we do not receive necessary regulatory approvals;

we are unable to get some or all of our product candidates to market in a timely manner;

we are not able to produce our product candidates in commercial quantities at reasonable costs;

our products undergo post-market evaluations resulting in marketing restrictions or withdrawal of our products; or

**Table of Contents**

the patients, insurance and/or physician community does not accept our products.

In addition, our product development programs may be curtailed, redirected or eliminated at any time for many reasons, including:

adverse or ambiguous results;

undesirable side effects which delay or extend the trials;

inability to locate, recruit, qualify and retain a sufficient number of patients for our trials;

regulatory delays or other regulatory actions;

difficulties in obtaining sufficient quantities of the particular product candidate or any other components needed for our pre-clinical testing or clinical trials;

change in the focus of our development efforts; and

re-evaluation of our clinical development strategy.

We cannot predict whether we will successfully develop and commercialize any of our product candidates. If we fail to do so, we will not be able to generate revenue.

***Certain results from our Phase III and Phase 2b clinical trials showed that the differences in the primary endpoint analyses between our lead compound, Chrysalin, and the placebo were not statistically significant and this could result in a substantial delay in our ability to generate revenue.***

On March 15, 2006, we reported results of our Phase 3 fracture repair human clinical trial. For the primary endpoint, immobilization removal, no statistically significant difference between placebo and a single injection of Chrysalin were achieved. Consistent with the Phase 1/2 human clinical trial results, a statistically significant difference for a secondary endpoint, radiographic evidence of radial cortical bridging, was achieved. However, no statistically significant difference was noted in the study's other secondary endpoints. These results may make it more difficult to achieve regulatory approval of Chrysalin. On March 15, 2006, we temporarily halted our Phase 2b fracture repair dosing clinical trial to perform an interim analysis of the data of the subjects enrolled to that date.

On August 29, 2006, we reported the results of preliminary interim analysis of data from our Phase 2b dose-ranging clinical trial of the novel synthetic peptide Chrysalin® (TP508) in unstable, displaced distal radius (wrist) fractures and termination of the Phase 2b study. In the dataset of 240 subjects as a group that were evaluable in the Phase 2b interim analysis, treatment with Chrysalin did not demonstrate benefit compared to placebo in the primary efficacy endpoint of time to removal of immobilization. Individual findings of efficacy in secondary endpoints, including radiographic healing, were not seen in this interim analysis. Further, no dose response relationship was observed. The trial met the pre-specified safety endpoint by demonstrating no significant difference in the incidence of adverse events between the Chrysalin and placebo groups.

***The results of our late stage clinical trials may be insufficient to obtain FDA approval, which could result in a substantial delay in our ability to generate revenue.***

Positive results from pre-clinical studies and early clinical trials do not ensure positive results in more advanced clinical trials. If we are unable to demonstrate that a product candidate will be safe and effective in advanced clinical trials involving larger numbers of patients, we will be unable to submit the NDA necessary to receive approval from the FDA to commercialize that product.

On March 15, 2006, as discussed in the risk factor above, we reported results of our Phase 3 fracture repair human clinical trial. For the primary endpoint, immobilization removal, no statistically significant difference between placebo and a single injection of Chrysalin were achieved. Consistent with the Phase 1/2 human clinical trial results, a statistically significant difference for a secondary endpoint, radiographic evidence of radial cortical bridging, was achieved. However, no statistically significant difference was noted in the study's other secondary endpoints. These results may make it more difficult to achieve regulatory approval of Chrysalin. On March 15, 2006, we temporarily

halted our Phase 2b fracture repair dosing clinical trial to perform an interim analysis of the data of the subjects enrolled to that date.

**Table of Contents**

On August 29, 2006, as discussed in the risk factors above, we reported the results of preliminary interim analysis of data from our Phase 2b dose-ranging clinical trial of the novel synthetic peptide Chrysalin® (TP508) in unstable, displaced distal radius (wrist) fractures and termination of the Phase 2b study. In the dataset of 240 subjects as a group that were evaluable in the Phase 2b interim analysis, treatment with Chrysalin did not demonstrate benefit compared to placebo in the primary efficacy endpoint of time to removal of immobilization. Individual findings of efficacy in secondary endpoints, including radiographic healing, were not seen in this interim analysis. Further, no dose response relationship was observed. The trial met the pre-specified safety endpoint by demonstrating no significant difference in the incidence of adverse events between the Chrysalin and placebo groups.

We will have to determine whether to redesign our Chrysalin fracture repair product candidate and our protocols and continue with additional testing, or cease activities in this area. Redesigning the product candidate or clinical protocols may not be economically practicable or scientifically possible. A substantial delay in obtaining FDA approval or termination of the Chrysalin fracture repair product candidate could result in a delay in our ability to generate revenue and could have a material adverse effect on our business going forward.

***The majority of our product candidates are all based on the same chemical peptide, Chrysalin. If one of our Chrysalin product candidates reveals safety or fundamental inefficacy issues in clinical trials, it could impact the development path for all our other current Chrysalin product candidates.***

The development of each of our product candidates in the Chrysalin Product Platform is based on our knowledge and understanding of how the human thrombin molecule contributes to the repair of soft tissue and bone. While there are important differences in each of the product candidates in terms of their purpose (fracture repair, diabetic foot ulcer, etc.), each product candidate is focused on accelerating the repair of soft tissue and bone and is based on the ability of Chrysalin to mimic specific attributes of the human thrombin molecule to stimulate the body's natural healing processes.

Since we are developing the product candidates in the Chrysalin Product Platform in parallel, we expect to learn from the results of each trial and apply some of our findings to the development of the other product candidates in the platform. The fact that the results from the Phase 3 and Phase 2b fracture repair human clinical trials showed no statistical significance between Chrysalin and the placebo for the primary endpoint in the study will likely impact the development path or future development of the other product candidates in the platform. In addition, if we find that one of our biopharmaceutical product candidates is unsafe in the future, it could impact the development of our other product candidates in clinical trials.

***Patients may discontinue their participation in our clinical studies, which may negatively impact the results of these studies and extend the timeline for completion of our development programs.***

As with all clinical trials, we are subject to the risk that patients enrolled in our clinical studies may discontinue their participation at any time during the study as a result of a number of factors, including, withdrawing their consent or experiencing adverse clinical events, which may or may not be judged related to our product candidates under evaluation. We are subject to the risk that if a large number of patients in any one of our studies discontinue their participation in the study, the results from that study may not be positive or may not support an NDA for regulatory approval of our product candidates.

In addition, the time required to complete clinical trials is dependent upon, among other factors, the rate of patient enrollment. Patient enrollment is a function of many factors, including:

the size of the patient population;

the nature of the clinical protocol requirements;

the diversion of patients to other trials or marketed therapies;

our ability to recruit and manage clinical centers and associated trials;

the proximity of patients to clinical sites; and



the patient eligibility criteria for the study.

**Table of Contents**

***Even if we obtain marketing approval, our products will be subject to ongoing regulatory oversight, which may affect our ability to successfully commercialize any products we may develop.***

Even if we receive regulatory approval of a product candidate, the approval may be subject to limitations on the indicated uses for which the product is marketed or require costly post-marketing follow-up studies. After we obtain marketing approval for any product, the manufacturer and the manufacturing facilities for that product will be subject to continual review and periodic inspections by the FDA and other regulatory agencies. The subsequent discovery of previously unknown problems with the product, or with the manufacturer or facility, may result in restrictions on the product or manufacturer, including withdrawal of the product from the market.

If we fail to comply with applicable regulatory requirements, we may be subject to fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

***If we cannot protect the Chrysalin patents, the AZX100 license and patents, or our intellectual property generally, our ability to develop and commercialize our products will be severely limited.***

Our success will depend in part on our ability to maintain and enforce patent protection for Chrysalin and AZX100 and each product resulting from Chrysalin or AZX100. Without patent protection, other companies could offer substantially identical products for sale without incurring the sizable discovery, development and licensing costs that we have incurred. Our ability to recover these expenditures and realize profits upon the sale of products would then be diminished.

Chrysalin and AZX100 are patented and there have been no successful challenges to the patents. However, if there were to be a challenge to these patents or any of the patents for product candidates, a court may determine that the patents are invalid or unenforceable. Even if the validity or enforceability of a patent is upheld by a court, a court may not prevent alleged infringement on the grounds that such activity is not covered by the patent claims. Any litigation, whether to enforce our rights to use our or our licensors' patents or to defend against allegations that we infringe third party rights, will be costly, time consuming, and may distract management from other important tasks.

As is commonplace in the biotechnology and pharmaceutical industry, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. To the extent our employees are involved in research areas which are similar to those areas in which they were involved at their former employers, we may be subject to claims that such employees and/or we have inadvertently or otherwise used or disclosed the alleged trade secrets or other proprietary information of the former employers. Litigation may be necessary to defend against such claims, which could result in substantial costs and be a distraction to management and which may have a material adverse effect on us, even if we are successful in defending such claims.

We also rely in our business on trade secrets, know-how and other proprietary information. We seek to protect this information, in part, through the use of confidentiality agreements with employees, consultants, advisors and others. Nonetheless, we cannot assure that those agreements will provide adequate protection for our trade secrets, know-how or other proprietary information and prevent their unauthorized use or disclosure. The risk that other parties may breach confidentiality agreements or that our trade secrets become known or independently discovered by competitors, could adversely affect us by enabling our competitors, who may have greater experience and financial resources, to copy or use our trade secrets and other proprietary information in the advancement of their products, methods or technologies.

***Our success also depends on our ability to operate and commercialize products without infringing on the patents or proprietary rights of others.***

Third parties may claim that we or our licensors or suppliers are infringing their patents or are misappropriating their proprietary information. In the event of a successful claim against us or our licensors or suppliers for infringement of the patents or proprietary rights of others, we may be required to, among other things:

**Table of Contents**

pay substantial damages;

stop using our technologies;

stop certain research and development efforts;

develop non-infringing products or methods; and

obtain one or more licenses from third parties.

A license required under any such patents or proprietary rights may not be available to us, or may not be available on acceptable terms. If we or our licensors or suppliers are sued for infringement, we could encounter substantial delays in, or be prohibited from, developing, manufacturing and commercializing our product candidates.

**Table of Contents**

***Some of our product candidates are in early stages of development and may never be commercialized.***

Research, development and pre-clinical testing are long, expensive and uncertain processes. Other than indications for fracture repair and diabetic ulcer healing, none of our other Chrysalin or AZX100 product candidates has reached clinical trial testing. Our development of Chrysalin for the repair of cartilage defects, tendons and cardiovascular repair is currently in pre-clinical testing or the research stage and AZX100 is currently in the pre-clinical testing stage. Our future success depends, in part, on our ability to complete pre-clinical development of these and other product candidates and advance them to the clinical trials.

If we are unsuccessful in advancing our early stage product candidates into clinical testing for any reason, our business prospects will be harmed.

***Acquisition of New Class of Molecules, ICARMs***

On February 23, 2006, we entered into an agreement to purchase certain assets and assume certain liabilities of AzERx, Inc. for \$390,000 in cash and the issuance of 1,355,000 shares of our common stock, with a market value of \$7.7 million determined by the closing share price on the date the agreement was entered into. The transaction was completed (closed) on February 27, 2006. Under the terms of the transaction, OrthoLogic acquired an exclusive license for the core intellectual property relating to AZX100, and will continue to develop the new class of compounds in the field of smooth muscle relaxation called Intracellular Actin Relaxing Molecules, or ICARMs, based on the unique technology developed by AzERx. The acquisition provides us with a new technology platform that diversifies the portfolio, and may provide more than one potential product. AzERx's lead compound is AZX100, a 24-amino acid peptide. AZX100 is currently being investigated for medically important and commercially significant applications such as the treatment of vasospasm associated with subarachnoid hemorrhage, prevention of keloid scarring, and the treatment of asthma. Preclinical and human *in vitro* studies have shown that this novel compound has the ability to relax smooth muscle in multiple tissue types. While we performed a reasonable level of due diligence on AZX100 and the rights acquired, there can be no assurances that we will recover the costs of our investment from the future development of AZX100 or that commercially significant applications will be developed.

***The loss of our key management and scientific personnel may hinder our ability to execute our business plan.***

As a small company our success depends on the continuing contributions of our management team and scientific personnel, and maintaining relationships with the network of medical and academic centers in the United States that conduct our clinical trials. The resignation or retirement of members of senior management or scientific personnel could materially adversely affect our business prospects.

***Reliance on Outside Suppliers and Consultants***

We rely on outside suppliers and consultants for the manufacture of Chrysalin and AZX100 and technical assistance in our research and development efforts. The inability of our suppliers to meet our production quality requirements in a timely manner, or the lack of availability of experienced consultants to assist in our research and development efforts, could have a material effect on our ability to perform research or clinical trials.

***We face an inherent risk of liability in the event that the use or misuse of our products results in personal injury or death.***

The use of our product candidates in clinical trials, and the sale of any approved products, may expose us to product liability claims, which could result in financial losses. Our clinical liability insurance coverage may not be sufficient to cover claims that may be made against us. In addition, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts or scope to protect us against losses. Any claims against us, regardless of their merit, could severely harm our financial condition, strain our management and other resources and adversely impact or eliminate the prospects for commercialization of the product which is the subject of any such claim.

**Table of Contents**

**Risks of our Industry**

***We are in a highly regulated field with high investment costs and high risks.***

Our Chrysalin Product Platform is currently in the human testing phase for three potential products and earlier pre-clinical testing phases for two other potential products. AZX100 is currently in pre-clinical testing. The FDA and comparable agencies in many foreign countries impose substantial limitations on the introduction of new pharmaceuticals through costly and time-consuming laboratory and clinical testing and other procedures. The process of obtaining FDA and other required regulatory approvals is lengthy, expensive and uncertain. Chrysalin and AZX100 are new drugs and subject to the most stringent level of FDA review.

Even after we have invested substantial funds in the development of our Chrysalin products and AZX100 and even if the results of our current clinical trials are favorable, there can be no guarantee that the FDA will grant approval of Chrysalin and/or AZX100 for the indicated uses or that it will do so in a timely manner.

If we successfully bring one or more products to market, there is no assurance that we will be able to successfully manufacture or market the products or that potential customers will buy them if, for example, a competitive product has greater efficacy or is deemed more cost effective. In addition, the market in which we will sell any such products is dominated by a number of large corporations that have vastly greater resources than we have, which may impact our ability to successfully market our products or maintain any technological advantage we might develop. We also would be subject to changes in regulations governing the manufacture and marketing of our products, which could increase our costs, reduce any competitive advantage we may have and/or adversely affect our marketing effectiveness.

***The pharmaceutical industry is subject to stringent regulation, and failure to obtain regulatory approval will prevent commercialization of our products.***

Our research, development, pre-clinical and clinical trial activities and the manufacture and marketing of any products that we may successfully develop are subject to an extensive regulatory approval process by the FDA and other regulatory agencies in the United States and abroad. The process of obtaining required regulatory approvals for drugs is lengthy, expensive and uncertain, and any such regulatory approvals may entail limitations on the indicated usage of a drug, which may reduce the drug's market potential.

In order to obtain FDA approval to commercialize any product candidate, an NDA must be submitted to the FDA demonstrating, among other things, that the product candidate is safe and effective for use in humans for each target indication. Our regulatory submissions may be delayed, or we may cancel plans to make submissions for product candidates for a number of reasons, including:

negative or ambiguous pre-clinical or clinical trial results;

changes in regulations or the adoption of new regulations;

unexpected technological developments; and

developments by our competitors that are more effective than our product candidates.

Consequently, we cannot assure that we will make our submissions to the FDA in the timeframe that we have planned, or at all, or that our submissions will be approved by the FDA. Even if regulatory clearance is obtained, post-market evaluation of our products, if required, could result in restrictions on a product's marketing or withdrawal of a product from the market as well as possible civil and criminal sanctions.

Clinical trials are subject to oversight by institutional review boards and the FDA to ensure compliance with the FDA's good clinical practice regulations, as well as other requirements for good clinical practices. We depend, in part, on third-party laboratories and medical institutions to conduct pre-clinical studies and clinical trials for our products and other third-party organizations, usually universities, to perform data collection and analysis, all of which must maintain both good laboratory and good clinical practices. If any such standards are not complied with in our clinical trials, the FDA may suspend or terminate such trial, which would severely delay our development and possibly end the development of a product candidate.

**Table of Contents**

We also currently and in the future will depend upon third party manufacturers of our products, which are and will be required to comply with the applicable FDA Good Manufacturing Practice regulations. We cannot be certain that our present or future manufacturers and suppliers will comply with these regulations. The failure to comply with these regulations may result in restrictions in the sale of, or withdrawal of the products from the market. Compliance by third parties with these standards and practices are outside of our direct control.

In addition, we are subject to regulation under state and federal laws, including requirements regarding occupational safety, laboratory practices, environmental protection and hazardous substance control, and may be subject to other local, state, federal and foreign regulation. We cannot predict the impact of such regulations on us, although they could impose significant restrictions on our business and require us to incur additional expenses to comply.

***If our competitors develop and market products that are more effective than ours, or obtain marketing approval before we do, our commercial opportunities will be reduced or eliminated.***

Competition in the pharmaceutical and biotechnology industries is intense and is expected to increase. Several biotechnology and pharmaceutical companies, as well as academic laboratories, universities and other research institutions, are involved in research and/or product development for various treatments for or involving fracture repair and diabetic ulcer healing or smooth muscle relaxation. Many of our competitors have significantly greater research and development capabilities, experience in obtaining regulatory approvals and manufacturing, marketing, financial and managerial resources than we have.

Our competitors may succeed in developing products that are more effective than the ones we have under development or that render our proposed products or technologies noncompetitive or obsolete. In addition, certain of such competitors may achieve product commercialization before we do. If any of our competitors develops a product that is more effective than one we are developing or plan to develop, or is able to obtain FDA approval for commercialization before we do, we may not be able to achieve significant market acceptance for certain products of ours, which would have a material adverse effect on our business.

For a summary of the competitive conditions relating to indications in which we are considering for our AZX100 and ICARMs research and development activities, see the section in this prospectus titled "The Company AZX100 ICARMs Competition" and the reports we file with the Securities and Exchange Commission and incorporate by reference into the registration statement of which this prospectus is a part. For a summary of the competitive conditions relating to Chrysalin-based indications, please see our Annual Report on Form 10-K for the fiscal year ending December 31, 2005, and other reports we file with the Securities and Exchange Commission and incorporate by reference into the registration statement of which this prospectus is a part.

***Our product candidates may not gain market acceptance among physicians, patients and the medical community, including insurance companies and other third party payors. If our product candidates fail to achieve market acceptance, our ability to generate revenue will be limited.***

Even if we obtain regulatory approval for our products, market acceptance will depend on our ability to demonstrate to physicians and patients the benefits of our products in terms of safety, efficacy, and convenience, ease of administration and cost effectiveness. In addition, we believe market acceptance depends on the effectiveness of our marketing strategy, the pricing of our products and the reimbursement policies of government and third-party payors. Physicians may not prescribe our products, and patients may determine, for any reason, that our product is not useful to them. Insurance companies and other third party payors may determine not to reimburse for the cost of the therapy. If any of our product candidates fails to achieve market acceptance, our ability to generate revenue will be limited.

***Healthcare reform and restrictions on reimbursements may limit our financial returns.***

Our ability to successfully commercialize our products may depend in part on the extent to which government health administration authorities, private health insurers and other third party payors will reimburse consumers for the cost of these products. Third party payors are increasingly challenging both the need for, and the price of, novel therapeutic drugs and uncertainty exists as to the reimbursement status of newly approved

**Table of Contents**

therapeutics. Adequate third party reimbursement may not be available for our drug products to enable us to maintain price levels sufficient to realize an appropriate return on our investments in research and product development, which could restrict our ability to commercialize a particular drug candidate.

**Risks Related to Our Common Stock and the Warrants**

***Our stock price is volatile and fluctuates due to a variety of factors.***

Our stock price has varied significantly in the past (from a high of \$8.96 to a low of \$1.25 from January 1, 2004 to August 30, 2006) and may vary in the future due to a number of factors, including:

announcement of the results of, or delays in, preclinical and clinical studies;

fluctuations in our operating results;

developments in litigation to which we or a competitor is subject;

announcements and timing of potential acquisitions, divestitures, capital raising activities and conversions of preferred stock;

announcements of technological innovations or new products by us or our competitors;

FDA and other regulatory actions;

developments with respect to our or our competitors' patents or proprietary rights;

public concern as to the safety of products developed by us or others; and

changes in stock market analyst recommendations regarding us, other drug development companies or the pharmaceutical industry generally.

In addition, the stock market has from time to time experienced significant price and volume fluctuations that are unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the market price of our stock.

***Additional authorized shares of our common stock available for issuance may have dilutive and other material effects on our stockholders.***

We are authorized to issue 100,000,000 shares of common stock. As of September 15, 2006, there were 41,564,291 shares of common stock issued and outstanding. However, the total number of shares of our common stock issued and outstanding does not include shares reserved in anticipation of the exercise of options, warrants or additional investment rights. As of September 15, 2006 we had stock options outstanding to purchase approximately 3,584,719 shares of our common stock, the exercise price of which range between \$1.70 per share to \$8.00 per share, warrants outstanding to purchase 46,706 shares of our common stock with an exercise price of \$6.39, warrants outstanding to purchase 357,423 shares of our common stock with an exercise price of \$1.91 and we have reserved shares of our common stock for issuance in connection with the potential exercise thereof. Additionally, at our Annual Stockholder Meeting on May 12, 2006, our stockholders approved the OrthoLogic 2005 Equity Incentive Plan, which provides an additional 2,000,000 shares of our common stock for incentive awards. To the extent such options are exercised or additional stock is issued, the holders of our common stock will experience further dilution. In addition, in the event that any future financing or consideration for a future acquisition should be in the form of, be convertible into or exchangeable for, equity securities, investors will experience additional dilution.

***Certain provisions of our amended and restated certificate of incorporation and bylaws will make it difficult for stockholders to change the composition of our board of directors and may discourage takeover attempts that some of our stockholders may consider beneficial.***

Certain provisions of our amended and restated certificate of incorporation and bylaws may have the effect of delaying or preventing changes in control if our board of directors determines that such changes in control are not in

the best interests of OrthoLogic Corp. and our stockholders. These provisions include, among other things, the following:

a classified board of directors with three-year staggered terms;



**Table of Contents**

advance notice procedures for stockholder proposals to be considered at stockholders' meetings;

the ability of our board of directors to fill vacancies on the board;

a prohibition against stockholders taking action by written consent; and

super majority voting requirements for the stockholders to modify or amend our bylaws and specified provisions of our amended and restated certificate of incorporation.

These provisions are not intended to prevent a takeover, but are intended to protect and maximize the value of our stockholders' interests. While these provisions have the effect of encouraging persons seeking to acquire control of our company to negotiate with our board of directors, they could enable our board of directors to prevent a transaction that some, or a majority, of our stockholders might believe to be in their best interests and, in that case, may prevent or discourage attempts to remove and replace incumbent directors. In addition, we are subject to the provisions of Section 203 of the Delaware General Corporation Law, which prohibits business combinations with interested stockholders. Interested stockholders do not include stockholders whose acquisition of our securities is pre-approved by our board of directors under Section 203.

***We may issue additional shares of preferred stock that have greater rights than our common stock and also have dilutive and anti-takeover effects.***

We are permitted by our amended and restated certificate of incorporation to issue up to 2,000,000 shares of preferred stock. We can issue shares of our preferred stock in one or more series and can set the terms of the preferred stock without seeking any further approval from our common stockholders or other security holders. Any preferred stock that we issue may rank ahead of our common stock in terms of dividend priority or liquidation rights and may have greater voting rights than our common stock.

In connection with the Rights Agreement dated as of March 4, 1997 between us and the Bank of New York, as amended (the "Rights Agreement"), our board approved the designation of 500,000 shares of Series A Preferred Stock. The Rights Agreement and the exercise of rights to purchase Series A Preferred Stock pursuant to the terms thereof may delay, defer or prevent a change in control because the terms of any issued Series A Preferred Stock would potentially prohibit our consummation of certain extraordinary corporate transactions without the approval of the Board. In addition to the anti-takeover effects of the rights granted under the Rights Agreement, the issuance of preferred stock, generally, could have a dilutive effect on our stockholders.

***We have not previously paid dividends on our common stock and we do not anticipate doing so in the foreseeable future.***

We have not in the past paid any dividends on our common stock and do not anticipate that we will pay any dividends on our common stock in the foreseeable future. Any future decision to pay a dividend on our common stock and the amount of any dividend paid, if permitted, will be made at the discretion of our board of directors.

***If we do not maintain an effective registration statement or comply with applicable state securities laws, the Warrant holders may not be able to exercise the Warrants.***

For the holders of the Warrants to be able to exercise their Warrants, the shares of our common stock to be issued upon exercise of those Warrants must be covered by an effective and current registration statement and qualify or be exempt under the securities laws of the state or other jurisdiction in which the Warrant holders live. We can give no assurance that we will be able to continue to maintain a current registration statement relating to the shares of our common stock underlying the Warrants or that an exemption from registration or qualification will be available throughout their term. This may have an adverse effect on the ability of the Warrant holders to exercise the Warrants.

**Table of Contents**

***While the Warrants are outstanding, it may be more difficult to raise additional equity capital.***

While the Warrants are outstanding, we may find it more difficult to raise additional equity capital.

***Future sales or the potential for sale of a substantial number of shares of our common stock could cause the trading price of our common stock to decline and could impair our ability to raise capital through subsequent equity offerings.***

Sales of a substantial number of shares of our common stock in the public markets, or the perception that these sales may occur, could cause the market price of our stock to decline and could materially impair our ability to raise capital through the sale of additional equity securities. This prospectus covers the resale of shares that previously were restricted, as well as shares underlying warrants issued to the selling security holder. As a result, the number of our securities eligible to be sold in the market will increase upon the effectiveness of this registration statement. If the selling security holder sells a significant amount of this common stock, or if there is a perception that such sales will be effected, the prices of those securities could drop.

***Exercise of the Warrants will dilute the ownership interests of existing stockholders.***

The exercise of the Warrants will dilute the ownership interests of existing stockholders and any sales in the public market of the common stock issuable upon such exercise could adversely affect prevailing market prices of our common stock. In addition, the existence of the Warrants may encourage short selling by market participants because exercise of the Warrants could depress the price of our common stock.

***You should consider the United States federal income tax consequences of owning the Warrants and our common stock.***

You are urged to consult your tax advisors with respect to the United States federal income tax consequences resulting from an exercise of the Warrants, as well as the possibility of taxable income resulting from certain changes to the terms of the Warrants.

We caution that the foregoing list of important factors is not exclusive and may not be up to date. Developments in any of these areas could cause our results to differ materially from results that have been or may be projected by us.

**Forward-Looking Statements**

All statements other than statements of historical facts included or incorporated by reference into this prospectus, including statements regarding our future financial position, business strategy, budgets, projected costs, and plans and objectives for future operations are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are subject to risks and uncertainties that could cause actual results to differ materially from those anticipated as of the date of this prospectus. Forward-looking statements generally can be identified by the use of forward-looking words such as may, could, expect, intend, plan, seek, anticipate, estimate, predict, potential, continue, or the negative of these terms or other comparable terminology. You should not place undue reliance on forward-looking statements since they involve known and unknown risks, uncertainties and other factors which are, in some cases, beyond our control and which could materially affect actual results, levels of activity, performance or achievements. Some of the factors that could cause such a variance may be disclosed in a

Risk Factors section elsewhere in this prospectus and documents incorporated by reference into this prospectus, and include the following:

unfavorable results of our product candidate development efforts;

unfavorable results of our pre-clinical or clinical testing;

delays in obtaining, or failure to obtain FDA approvals;

increased regulation by the FDA and other agencies;

the introduction of competitive products;

impairment of license, patent or other proprietary rights;



**Table of Contents**

failure to achieve market acceptance of our products;

the impact of present and future collaborative agreements; and

failure to successfully implement our drug development strategy.

We urge you to consider these factors and to review carefully the description of risks in this section titled "Risk Factors and Forward-Looking Statements" for a more complete discussion of the risks of an investment in our securities. The forward-looking statements included in this prospectus or incorporated by reference into this prospectus are made only as of the date of this prospectus or the date of the incorporated document, and we undertake no obligation to publicly update these statements to reflect subsequent events or circumstances.

**Table of Contents**

**THE COMPANY**

**Overview of the Business**

**CHRYSALIN®**

OrthoLogic is a biotechnology company focused on the development and commercialization of the novel synthetic peptide Chrysalin® (TP508) in two lead indications, both of which represent areas of significant unmet medical need fracture repair and diabetic foot ulcer healing. Chrysalin, or TP508, is a 23-amino acid synthetic peptide representing a receptor-binding domain of the human thrombin molecule, a naturally occurring agent responsible for blood clotting and initiating the natural healing cascade of cellular events responsible for tissue repair both soft tissue and bone.

On March 15, 2006, we reported results of our Phase 3 fracture repair human clinical trial. For the primary endpoint, immobilization removal, no statistically significant difference between placebo and a single injection of Chrysalin were achieved. Consistent with the Phase 1/2 human clinical trial results, a statistically significant difference for a secondary endpoint, radiographic evidence of radial cortical bridging, was achieved. However, no statistically significant difference was noted in the study's other secondary endpoints. On March 15, 2006, we temporarily halted our Phase 2b fracture repair dosing clinical trial to perform an interim analysis of the data of the subjects enrolled to that date.

On August 29, 2006, we reported the results of preliminary interim analysis of data from our Phase 2b dose-ranging clinical trial of the novel synthetic peptide Chrysalin® (TP508) in unstable, displaced distal radius (wrist) fractures and termination of the Phase 2b study. In the dataset of 240 subjects as a group that were evaluable in the Phase 2b interim analysis, treatment with Chrysalin did not demonstrate benefit compared to placebo in the primary efficacy endpoint of time to removal of immobilization. Individual findings of efficacy in secondary endpoints, including radiographic healing, were not seen in this interim analysis. Further, no dose response relationship was observed. The trial met the pre-specified safety endpoint by demonstrating no significant difference in the incidence of adverse events between the Chrysalin and placebo groups.

**AZX100 ICARMS**

On February 23, 2006 we entered into an agreement to purchase certain assets and assume certain liabilities of AzERx, Inc. The transaction was completed (closed) on February 27, 2006. Under the terms of the transaction, OrthoLogic acquired an exclusive license for the core intellectual property relating to AZX100, and will continue to develop the new class of compounds in the field of smooth muscle relaxation called Intracellular Actin Relaxing Molecules, or ICARMS, based on the unique technology developed by AzERx. The acquisition provides us with a new technology platform that diversifies the portfolio, and may provide more than one potential product. AzERx's lead compound is AZX100, a 24-amino acid peptide. AZX100 is currently being investigated for medically important and commercially significant applications such as the treatment of vasospasm associated with subarachnoid hemorrhage (SAH), prevention of keloid scarring, and the treatment of asthma. Preclinical and human *in vitro* studies have shown that this novel compound has the ability to relax smooth muscle in multiple tissue types. We will continue pre-clinical activities on AZX100 in 2006.

We continue to evaluate other biopharmaceutical compounds that can complement our research activity internally and broaden our potential pipeline for successful products.

**Additional Information about OrthoLogic**

OrthoLogic Corp. was incorporated as a Delaware corporation in July 1987 as IatroMed, Inc. We changed our name to OrthoLogic Corp. in July 1991. Our executive offices are located at 1275 West Washington Street, Tempe, Arizona 85281, and our telephone number is (602) 286-5520.

Our website address is [www.orthologic.com](http://www.orthologic.com). Our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, as well as any amendments to those reports, are available free of charge

**Table of Contents**

through our website as soon as reasonably practical after we file or furnish them to the U.S. Securities and Exchange Commission. Once at our website, go to the Investors section to locate these filings.

In March 2004, we adopted a code of conduct that applies to all of our employees and has particular sections that apply only to our principal executive officer and senior financial officers. We posted the text of our code of conduct on our website in the Investors section of our website under Code of Conduct. In addition, we will promptly disclose on our website (1) the nature of any amendment to our code of conduct that applies to our principal executive officer and senior financial officers, and (2) the nature of any waiver, including an implicit waiver, from a provision of our code of ethics that is granted to one of these specified officers, the name of such officer who is granted the waiver and the date of the waiver.

**Chrysalin Product Platform**

Chrysalin, or TP508, is a 23-amino acid synthetic peptide representing a receptor-binding domain of the human thrombin molecule, a naturally occurring molecule in the body responsible for both blood clotting and initiating many of the cellular events responsible for tissue repair. Chrysalin mimics specific attributes of the thrombin molecule, stimulating the body's natural healing processes. Drugs based on the Chrysalin peptide can be used to mimic part of the thrombin response without stimulating the events associated with blood clotting and therefore has the potential to accelerate the natural cascade of healing events. The Chrysalin molecule serves as the basis for a group of potential therapeutic products we refer to collectively as the Chrysalin Product Platform. We have initiated or are conducting clinical trials for three potential Chrysalin products: one trial for acceleration of fracture repair, a second trial for diabetic foot ulcer, and a third pilot study for spine fusion. We have conducted pre-clinical testing for cartilage defect repair, cardiovascular repair, dental bone repair, and tendon repair. As of December 31, 2005 we have focused our efforts on the development and commercialization of fracture repair and diabetic foot ulcer healing indications.

The development of each of our potential product candidates in the Chrysalin Product Platform is based on our collective knowledge and understanding of how the human thrombin molecule contributes to the repair of soft tissue and bone. While there are important differences in each of the product candidates in terms of purpose (fracture repair, diabetic foot ulcer healing, etc.) each product candidate is focused on accelerating and enhancing tissue repair and is based on the ability of Chrysalin to mimic specific attributes of the human thrombin molecule to stimulate the body's natural healing process.

We are developing the Chrysalin-based product candidates in parallel. We expect to learn from the results of each trial and apply the findings to the development of the other product candidates. We believe there are distinct research activities within the product candidates whose outcomes and results will apply across the product platform in terms of safety and efficacy. All of our potential products in research and development are subject to extensive regulation by the U.S. Food and Drug Administration, whose approval we must obtain before we can bring our products to the market.

**Acceleration of Fracture Repair**

Every broken bone is called a fracture and approximately 30 million fractures are treated every year throughout the developed world, as reported by medical reimbursement records in countries with national healthcare systems. The treatment of a fracture depends on the severity of the break. Simple fractures often heal themselves, with more complex closed fractures potentially amenable to treatment by manipulation (also called reduction) without requiring surgery. Fractures that break the skin (or open fractures) or where the fragments cannot be lined up correctly usually require surgery. Sometimes plates, screws or pins are used for mechanical stabilization, occasionally with the use of bone grafts, all of which are invasive, expensive and time consuming procedures.

Chrysalin is a substance that, when injected through the skin into the fracture site at the time of fracture reduction, was shown in a preliminary clinical trial to accelerate the healing of the fracture. Chrysalin does this by mimicking certain stimulatory aspects of the thrombin molecule. Fractures that heal faster lead to earlier return of function for the patient and potentially improved clinical outcomes.

**Table of Contents**

In pre-clinical animal studies, a single injection of Chrysalin into the fracture gap accelerated fracture healing by up to 50% as measured by mechanical testing. In late 1999, we initiated a combined Phase 1/2 human clinical trial to evaluate the safety of Chrysalin and its effect on the rate of healing in adult subjects with unstable distal radius fractures (fractures around and in the wrist joint). We presented the results of this Phase 1/2 human clinical trial for fracture repair at the 57th Annual Meeting of the American Society for Surgery of the Hand in October 2002. The data from x-ray evaluations revealed that a single injection of Chrysalin into the fracture gap resulted in a trend toward accelerated fracture healing compared with the saline placebo control. There were no reportable adverse events attributable to Chrysalin in the study.

We completed patient enrollment in our pivotal Phase 3 human clinical trial evaluating the efficacy of Chrysalin in patients with unstable and/or displaced distal radius (wrist) fractures in May 2005. We enrolled a total of 503 study patients in 27 health centers throughout the United States. The primary efficacy endpoint in the trial is to measure how quickly wrist fractures in patients injected with Chrysalin heal, as measured by the removal of immobilization. Accelerated removal of immobilization allows patients to initiate hand therapy and regain full function of their wrists and hands sooner. The clinical trial's secondary efficacy endpoints include radiographic analysis of healing, as well as clinical, functional, and patient outcome parameters. On March 15, 2006, we reported results of our Phase 3 fracture repair human clinical trial. For the primary endpoint, immobilization removal, no statistically significant difference between placebo and a single injection of Chrysalin were achieved. Consistent with the Phase 1/2 human clinical trial results, a statistically significant difference for a secondary endpoint, radiographic evidence of radial cortical bridging, were achieved. However, no statistically significant difference was noted in the study's other secondary endpoints. To date, there have been no adverse events related to Chrysalin reported in this Phase 3 trial.

At that time, we were also conducting a Phase 2b human clinical trial to establish the lower dose range of Chrysalin versus a placebo control, as well as to provide information to support our potential future fracture repair new drug application ( NDA ). Our enrollment goal was 500 patients in approximately 60 sites. On March 15, 2006, we temporarily halted our Phase 2b fracture repair dosing clinical trial to perform an interim analysis of the data of the subjects enrolled to that date.

On August 29, 2006, we reported the results of preliminary interim analysis of data from our Phase 2b dose-ranging clinical trial of the novel synthetic peptide Chrysalin® (TP508) in unstable, displaced distal radius (wrist) fractures and termination of the Phase 2b study. In the dataset of 240 subjects as a group that were evaluable in the Phase 2b interim analysis, treatment with Chrysalin did not demonstrate benefit compared to placebo in the primary efficacy endpoint of time to removal of immobilization. Individual findings of efficacy in secondary endpoints, including radiographic healing, were not seen in this interim analysis. Further, no dose response relationship was observed. The trial met the pre-specified safety endpoint by demonstrating no significant difference in the incidence of adverse events between the Chrysalin and placebo groups.

We currently plan to approach the FDA and European regulatory authorities as to the acceptance of a primary endpoint focused on radiographic healing. Our future fracture repair activity will be determined by the results of these efforts.

**Dermal Wound Healing**

Our dermal wound healing studies are focused on healing diabetic foot ulcers, a common problem for diabetic patients. Diabetic patients suffer from open wound foot ulcers because diabetes related nerve damage causes the patient to lose sensation. Patients thus may not notice an injury to the foot and neglect the injury. This fact and the diminished blood flow to extremities caused by diabetes cause a diabetic patient's wounds to heal more slowly or not at all.

Current standard treatment for diabetic foot ulcer wounds focuses on sanitation of the wound and non-use of the foot (off loading) to allow for the body's natural healing processes to occur. These treatments require high patient compliance and effectively heal only approximately 33% of these ulcers. Wounds that do not respond to treatment can sometimes result in amputation of the affected limb.

**Table of Contents**

We believe topical treatment of the wound with Chrysalin will promote new tissue growth necessary for healing of a diabetic foot ulcer. CBI conducted a multicenter Phase 1/2 double blind human trial with 60 patients, the results of which were presented at the Wound Healing Society in May of 2002. We found no drug related adverse events or patient sensitivity to Chrysalin in the trial and complete wound closure occurred in 70% of Chrysalin-treated ulcers relative to 33% in placebo controls, a statistically significant difference. Our pre-clinical studies and the initial Phase 1/2 human clinical trial evaluated Chrysalin in a saline formulation.

**Spine Fusion**

Spine fusion surgery is most commonly performed to treat degenerative disk disease, spinal instability and other disorders of the spine that are believed to be the cause of back and neck pain. The surgery involves the fusing of one or more vertebrae of the spine by placement of bone graft material around the targeted area of the spine during surgery. The body then heals the grafts over several months, which fuses the vertebrae together with newly formed bone so there is no longer movement between the vertebrae.

The bone used for the graft in this procedure is taken from another bone in the patient, usually from the iliac crest (hip bone) and is called autograft bone. In some procedures the patients and physicians elect to use allograft bone which is bone processed from cadavers. Autograft bone is currently the primary type of bone graft used in spinal fusion surgery and is considered the gold standard. Allograft bone is often used but has not been an effective stand-alone substitute for autograft bone because it has no bioactive component to stimulate bone growth. The benefit of using allograft bone is it does not require a separate surgical procedure from the same patient to harvest the bone for the graft.

Our potential solution to this problem is to combine Chrysalin, either in saline or in a sustained release formulation, with commercially available allograft bone for use in spinal fusion surgery as an alternative to autograft. A completed pre-clinical study, which was presented at the North American Spine Society meeting in October 2004 in Chicago, showed that Chrysalin, in several different formulations combined with allograft bone, caused varying degrees of bone formation in spinal fusion models.

In addition, we completed enrollment in a small pilot Phase 1/2 human clinical trial evaluating Chrysalin for spine fusion in the spring of 2004. This pilot study included approximately 50 patients and no adverse events related to Chrysalin have been reported in this study.

**Cartilage Defect Repair**

Cartilage tissue is the smooth, slippery cushion that exists where two bones meet to make a joint. Because damaged cartilage generally does not heal but slowly breaks down over time, the result can lead to a complete wearing away of the cartilage, leading to osteoarthritis.

The primary purpose of exploring Chrysalin's potential role in cartilage defect repair is to develop a technique to restore, rather than entirely replace, the original cartilage damaged due to acute traumatic events. These techniques, if successful, may also provide a novel approach for partial resurfacing of damaged joint (or articular) cartilage due to osteoarthritis. Our potential solution to cartilage defects is to deliver Chrysalin within a sustained-release matrix to the damaged cartilage.

We have completed several pre-clinical studies evaluating Chrysalin in sustained release formulations for cartilage defect repair. The results to date have been presented at two major international conferences on cartilage repair.

**Cardiovascular Repair**

Coronary artery disease is the narrowing of the arteries that carry blood through the heart and is a leading cause of mortality in the United States and other parts of the western world. The narrowing is usually caused by fatty deposits inside the artery walls that restrict the passage of blood carrying oxygen to the heart muscle. This oxygen insufficiency is the primary cause of chest pain (commonly referred to as angina) and, if left untreated, can lead to heart failure and, ultimately, death. The most common treatments for the disease are a regimen of



## **Table of Contents**

pharmaceuticals that reduce the patient's cholesterol (slowing the buildup of deposits along artery walls) and surgical procedures to increase the blood flow through the arteries. Up to 15% of patients, however, either cannot undergo the treatments or do not achieve sufficient blood flow after the treatment.

A potentially new treatment for coronary artery disease is therapeutic angiogenesis, the growing of new blood vessels to deliver blood to the diseased heart. In pre-clinical animal studies conducted, Chrysalin injections into the damaged heart appear to trigger a complex sequence of events that culminates in the body's growth of new blood vessels, enhancing blood delivery to the heart muscle.

### **Dental Bone Repair**

We've focused on the use of Chrysalin in two dental bone repair situations: dental implants and maxillo-facial reconstruction. For some patients who need dental implants to replace missing teeth, the patient's bones in the jaw are not strong enough to hold the implanted teeth or supporting structure. The standard treatment in these cases is to insert bone graft material into or above the jaw bones and wait for the body to naturally grow bone around the graft material. This process can take a year or longer, during which a patient must use a temporary external plate with the temporary teeth. In a 2004 pre-clinical study done by CBI in conjunction with Louisiana State University, the incorporation of Chrysalin together with a commercially available bone graft material into the space above the rabbit jaw bones resulted in a significant increase in new bone formation. This could translate in a shorter wait for patients to complete their dental implant surgery.

### **Tendon Repair**

Tendons are the soft tissue that connects muscles to bone. Tendons are crucial to the biomechanical functions of the body. Injuries to tendons are very common, and typically these injuries are treated either conservatively with rehabilitation techniques or with surgical techniques. These injuries are often slow to heal or do not heal completely. We have conducted preliminary research focused on whether Chrysalin accelerates tendon tissue repair which may result in better restoration of function.

We are focusing our efforts on the fracture repair and diabetic foot ulcer healing product candidates. The results of our efforts in these two product candidates will determine when and what future actions are taken on the other product candidates described above.

### **AZX100 ICARMs**

AZX100, a 24 amino acid peptide, is one of a new class of compounds in the field of smooth muscle relaxation called Intracellular Actin Relaxing Molecules, or ICARMs.

AZX100 relaxes smooth muscle, which modulates the function of blood vessels, sphincters, the gastrointestinal tract, the genitourinary tract, and the airways. Sustained abnormal contraction of any of these muscles is called spasm. Any disorders known to be associated with excessive constriction or inadequate dilation of smooth muscle represent potential applications for AZX100, including:

- Subarachnoid hemorrhage (SAH) induced spasm of the intracranial blood vessels

- Spasm of vein grafts after harvest

- Spasm of the portal vein (PHT)

- Spasm of airway smooth muscle (asthma)

- Spasm of lung vessels, which causes pulmonary (lung) hypertension

- Male and female sexual dysfunction

- Toxemia of pregnancy (pre-eclampsia/eclampsia)

- Pre-term labor

Reynaud's disease or phenomenon

Achalasia (spasm of the lower esophageal sphincter)

Non-occlusive mesenteric ischemia

Hemolytic-uremia

**Table of Contents**

Prinzmetal's angina (a form of coronary spasm that causes angina), and

Anal fissure.

AZX100 may also reverse the fibrotic phenotype of fibroblasts and smooth muscle cells in a mechanism similar to that which causes vasorelaxation. Through phenotypic modulation of fibroblasts and smooth muscle cells, AZX100 may inhibit the scarring that results from wound healing and disease states in the dermis, blood vessels, lungs, liver and other organs.

We are currently evaluating AZX100 for applications such as the treatment of vasospasm associated with subarachnoid hemorrhage, prevention of keloid scarring, and the treatment of asthma. Preclinical and human *in vitro* studies have shown that this novel compound has the ability to relax smooth muscle in multiple tissue types. We plan to continue pre-clinical activities in support of AZX100 in 2006.

**Competition**

The following provides a summary of the competitive conditions relating to indications for which we are considering for our AZX100 and ICARMs research and development activities. For a summary of the competitive conditions relating to Chrysalin-based indications, please see our Annual Report on Form 10-K for the fiscal year ended December 31, 2005, and other reports we file with the Securities and Exchange Commission and incorporate by reference into the registration statement of which this prospectus is a part.

**Subarachnoid Hemorrhage (SAH)**

Approved

The only current pharmacological treatment for SAH is the calcium channel antagonist Nimotop (nimodipine). Although Nimotop significantly improves the outcome of surviving patients through a neuroprotective effect, it has not been shown to alter the incidence or magnitude of vasospasm or to decrease mortality. Nimotop carries in the label a "black box" warning regarding i.v. or other parenteral administration.

In Development

The other potential competing products currently under development for SAH are endothelin antagonists (endothelin has been implicated in SAH-induced vasospasm). Elevated plasma levels of endothelin-1 (ET-1) have been shown to occur in patients with SAH-induced vasospasm, although the timing of endothelin elevation has varied from as early as three days after SAH to 8-14 days after SAH. Such differences indicate endothelin may not induce vasospasm, but rather may play a role in vasospasm progression. Conflicting results have also been reported regarding the cerebrospinal fluid levels of ET-1. Taken together, these studies indicate that endothelin may contribute to SAH-induced vasospasm. Thus, clinical trials have been conducted for Acetelion's endothelial antagonists, clazosentan (specific ET<sub>A</sub> receptor antagonist) and bosentan (Tracleer®, dual ET<sub>A</sub> and ET<sub>B</sub> receptor antagonist). Although bosentan appears effective for pulmonary arterial hypertension, the trial for SAH was discontinued because of a lack of efficacy.

Roche is developing a follow-up compound from bosentan, Ro 61-1790, to improve water solubility and ET<sub>A</sub> potency and has demonstrated *in vivo* efficacy with a canine double hemorrhage model. In the double hemorrhage model two blood clots must be placed to cause vasospasm. While vasospasm can be demonstrated angiographically, it does not typically result in cerebral infarction. Thus, Ro 61-1790 must be tested in humans to determine whether its improvements will increase efficacy.

The primary disadvantage of endothelin antagonists is that they act on a single vasoconstrictor, although additional mediators have been implicated in SAH. Therefore, targeting downstream vasorelaxing pathways with administration of AZX100 may be more effective. In addition, the ET receptor is internalized once it interacts with the ET peptide. Thus, this drug may only be effective as a prevention measure, not treatment.

In addition, the recombinant haemostatic agent NovoSeven (activated factor VIIa) is currently registered for treatment of bleeding of hemophilia patients, but has also been shown to be effective against the intracerebral

## **Table of Contents**

hemorrhage (ICH) in phase 2b clinical trials. NovoSeven accelerates the coagulation process at the site of ICH limiting hematoma.

### **Keloid Scarring**

#### **Approved**

There is no approved pharmacologic treatment for scarless healing. In the setting of keloid formation, the scars are often excised and treated with steroids with variable results.

#### **In Development**

The potential competing products are recombinant transforming growth  $\beta$ -3 (TGF-  $\beta$ -3) and antiTGF-  $\beta$ -1. Renovo is conducting phase 3 clinical trials in Europe on recombinant TGF-  $\beta$ -3 (*Justiva*). While preliminary efficacy has been shown in healing in healthy individuals, like other therapeutics, TGF-  $\beta$ -3 addresses only part of the pathway that end in phosphorylation of our target molecule and results in scar inhibition. The potential of the AZX100 to completely inhibit the entire scarring pathways suggests that AZX100 may be more effective than TGF-  $\beta$ -3 at scarless healing. Renovo has also begun clinical trials on antiTGF-  $\beta$ -1, which like TGF-  $\beta$ -3 also blocks part of the signaling cascade resulting in scar formation. AZX100 may be more effective than antiTGF-  $\beta$ -1 through more complete inhibition of the scarring cascade.

While many other companies are investigating therapeutics for wound healing, these therapeutics will be synergistic with and not competitive with AZX100 as they are targeting more rapid healing and not scar inhibition.

### **Asthma**

Asthma ranks as the third highest reason for preventable hospitalizations in the U.S. with 470,000 hospitalizations and more than 5,000 deaths each year (American Academy of Allergy Asthma and Immunology Report). Acute asthma accounts for an estimated two-million emergency department visits annually. There are many competitors with asthma products approved or in development. AZX100 has been shown to relax airway smooth muscle and may be developed for the treatment of asthmatic attacks. Specific markets include severe acute asthma and asthma that is refractory to current therapies. Severe asthma has been defined as asthma that is refractory to current therapeutic approaches in clinical use (anti-inflammatory agents and bronchodilators). The current approach is to use  $\beta$ -adrenergic agonists, which activate the cAMP/PKA pathway. AZX100 is a mimetic of the molecule downstream of this pathway and hence may be more sensitive and specific for the treatment of severe asthma. In addition, patients with severe asthma present to the emergency room for treatment, hence efficacy can be closely monitored and outcomes will be apparent in a short time frame after treatment. Recent data has demonstrated that one out of every six asthmatics has a mutation in the  $\beta$ -adrenergic receptor. These patients do not respond to  $\beta$ -adrenergic agonists and in fact do worse when treated with  $\beta$ -adrenergic agonists. This patient population would be potentially treated with the AZX100 compound in that it acts downstream of the receptors.

For more information about the status of our drug development efforts, see Chrysalin Product Platform above and review our Annual Report on Form 10-K for the fiscal year ended December 31, 2005, and other reports we file with the Securities and Exchange Commission and incorporate by reference into the registration statement of which this prospectus is a part. Chrysalin, ICARMS and OrthoLogic are registered United States domestic trademarks of OrthoLogic Corp.

## **MATERIAL CHANGES**

On August 29, 2006, we reported the results of preliminary interim analysis of data from our Phase 2b dose-ranging clinical trial of the novel synthetic peptide Chrysalin® (TP508) in unstable, displaced distal radius (wrist) fractures and termination of the Phase 2b study. In the dataset of 240 subjects as a group that were evaluable in the Phase 2b interim analysis, treatment with Chrysalin did not demonstrate benefit compared to placebo in the primary efficacy endpoint of time to removal of immobilization. Individual findings of efficacy in secondary endpoints, including radiographic healing, were not seen in this interim analysis. Further, no dose response

**Table of Contents**

relationship was observed. The trial met the pre-specified safety endpoint by demonstrating no significant difference in the incidence of adverse events between the Chrysalin and placebo groups.

On April 5, 2006, James M. Pusey, MD resigned as our President and Chief Executive Officer and as a Class I director of the company. John M. Holliman, III, a director of OrthoLogic since September 1987 and Chairman of the Board of Directors since August 1997, assumed the title of Executive Chairman on that date. In that position, Mr. Holliman serves as our principal executive officer and leads our business and corporate strategic activities. Randolph C. Steer, MD, Ph.D. was named our President on April 5, 2006, and is responsible for directing our strategy and operations in all clinical development and regulatory areas.

On March 15, 2006, we reported results of our Phase 3 fracture repair human clinical trial. For the primary endpoint, immobilization removal, no statistically significant difference between placebo and a single injection of Chrysalin were achieved. Consistent with the Phase 1/2 human clinical trial results, a statistically significant difference for a secondary endpoint, radiographic evidence of radial cortical bridging, was achieved. However, no statistically significant difference was noted in the study's other secondary endpoints. On March 15, 2006, we temporarily halted our Phase 2b fracture repair dosing clinical trial to perform an interim analysis of the data of the 273 patients enrolled to that date.

On February 23, 2006, we entered into an agreement to purchase certain assets and assume certain liabilities of AzERx, Inc. The transaction closed on February 27, 2006. Under the terms of the agreement, we acquired an exclusive license for the core intellectual property relating to AzERx's lead compound, AZX100, a 24-amino acid peptide. AZX100 is currently being investigated for several applications, including the treatment of vasospasm associated with subarachnoid hemorrhage, prevention of keloid scarring, and treatment of asthma. We will continue to develop the new class of compounds in the field of smooth muscle relaxation called Intracellular Actin Relaxing Molecules, or ICARMs, based on the AZX100 technology.

#### **THE NOVAQUEST TRANSACTION**

On February 27, 2006 (the Closing Date), we closed the initial transactions relating to our Common Stock and Warrant Purchase Agreement (the Purchase Agreement) dated February 24, 2006 with PharmaBio Development Inc. (d/b/a NovaQuest) (NovaQuest), an affiliate of Quintiles Transnational Corp. and Quintiles, Inc., which provides for the purchase of shares of our common stock in three tranches. On the Closing Date, NovaQuest purchased 359,279 shares of our common stock for a purchase price of \$2,000,000 based on the average closing stock price for the 15 trading days prior to that date. In addition, we also entered into a Class A Warrant Agreement with NovaQuest on the same date, whereby we issued NovaQuest a fully vested warrant to purchase 46,706 shares of our common stock at \$6.39 a share (the Initial Class A Warrant). On July 3, 2006, NovaQuest purchased 903,252 shares of our common stock for a purchase price of \$1,500,000 based on the average closing stock price for the 15 trading days prior to that date. In addition, we also entered into a Class A Warrant Agreement with NovaQuest on the same date, whereby we issued NovaQuest a fully vested warrant to purchase 117,423 shares of our common stock at \$1.91 a share (the Additional Class A Warrant). We are also parties to an Amended and Restated Class B Warrant Agreement (the Class B Warrant), an Amended and Restated Class C Warrant Agreement (the Class C Warrant) and an Amended and Restated Class D Warrant Agreement (the Class D Warrant) with NovaQuest to purchase in the aggregate up to 240,000 shares of our common stock at \$1.91 a share (the Class B Warrant, Class C Warrant and Class D Warrant are collectively referred to in this prospectus as the Milestone Warrants). The Milestone Warrants, all dated as of February 24, 2006, and amended and restated as of June 30, 2006, will be exercisable for a ten-year period from February 24, 2006, and will vest based on the achievement of certain milestones. As provided for in the Purchase Agreement, we have elected not to offer for sale to NovaQuest the additional shares contemplated in the Purchase Agreement with respect to the third tranche.

In connection with our entry into the Purchase Agreement, we also entered into a Master Services Agreement with Quintiles, Inc. (Quintiles) whereby Quintiles will become our exclusive clinical research organization service provider for our Chrysalin Product Platform and will provide certain other technical assistance.

**Table of Contents**

As consideration for entry into the Master Services Agreement, we have granted Quintiles the right of first negotiation to promote Chrysalin if it is approved by the U.S. Food and Drug Administration.

We are obligated to file a registration statement to cover the shares issued on the Closing Date, the additional shares issued as of July 3, 2006, as well as the shares to be issued upon exercise of the Initial Class A Warrant, the Additional Class A Warrant and the Milestone Warrants (collectively referred to in this prospectus as the Warrants ).

**USE OF PROCEEDS**

This prospectus relates to the sale of shares of our common stock that may be offered and sold from time to time by NovaQuest, the selling security holder. We will not receive any of the proceeds from the resale by the selling security holder of any of the securities covered by this prospectus, however, we have received \$3.5 million from the sale of shares under a Common Stock and Warrant Purchase Agreement we have entered into with NovaQuest. We will also receive the exercise price of the warrants described in this prospectus (to the extent that the selling security holder does not utilize the cashless exercise feature, if provided). All of the proceeds from the resale of the securities will go to the selling security holder who offers and sells its securities.

We intend to use the net proceeds we receive for general corporate purposes, including capital expenditures, working capital needs, current and future clinical trials of our drug candidates, as well as other research and drug development activities. We have not specifically identified the precise amounts we will spend on each of these areas or the timing of these expenditures. The amounts actually expended for each purpose may vary significantly depending upon numerous factors, including progress with clinical trials for our drug candidates, the establishment of new collaborative relationships with other companies, the availability of other financing, and other factors.

**Table of Contents****SELLING SECURITY HOLDER**

The following table provides certain information as of the date hereof regarding the beneficial ownership of our common stock by the selling security holder prior to and after the issuance of our common stock to the selling security holder pursuant to the Purchase Agreement. Beneficial ownership is determined under the rules of the Securities and Exchange Commission and generally includes voting or investment power with respect to securities.

Our registration of shares does not necessarily mean that the selling security holder will sell all or any of these securities. We have assumed for purposes of the table below that the selling security holder will sell all of the shares offered for sale. The selling security holder may have sold, transferred or otherwise disposed of all or a portion of its shares, or acquired additional shares, since the date on which it provided information regarding its securities.

Selling Security Holder (1)	Shares of Common Stock Beneficially Owned Before Offering (2)(3)	Shares to be Sold in the Offering (2)(4)	Shares of Common Stock Beneficially Owned Upon Completion of the Offering	
			Number	%
PharmaBio Development Inc. (d/b/a NovaQuest)	1,426,660	1,666,660	0	4.01(5)(6)

(1) Neither NovaQuest nor any of its affiliates has held a position or office, or had any other material relationship (other than for previous purchases under the Purchase Agreement), with us.

(2) Our registration of these securities does not necessarily mean that the selling security holder will sell any or all of the securities.

- (3) Includes shares underlying the Initial Class A Warrant, the Additional Class A Warrant and the shares of common stock issued to the selling security holder on February 27, 2006 and July 3, 2006 pursuant to the Purchase Agreement, but does not include the shares of common stock issuable upon exercise of the Milestone Warrants, as the milestones contained in those warrants are subject to a confidential treatment request with the SEC and, as of the date of this prospectus, none of those milestones has been achieved. We are also assuming, for purposes of the beneficial ownership determination, that none of the milestones in the Milestone Warrants will be achieved within 60 days from the date of this selling security holder table.



- (4) The figure in this column assumes that the selling security holder will fully exercise the Initial Class A Warrant, the Additional Class A Warrant, and all of the Milestone Warrants. The remaining balance includes the shares of common stock issued to the selling security holder on February 27, 2006 (359,279 shares), and July 3, 2006 (903,252 shares).
- (5) Applicable percentage of ownership is based on 41,564,291 shares of common stock outstanding as of September 15, 2006.
- (6) Percentage calculation assumes that all of the shares are sold by the selling security holder.

**Table of Contents**

**PLAN OF DISTRIBUTION**

We will not receive any of the proceeds from the resale by the selling security holder of any of the securities covered by this prospectus, however, we have received \$3.5 million from the sale of shares under a Common Stock and Warrant Purchase Agreement we have entered into with NovaQuest. We will also receive the exercise price of the warrants described in this prospectus (to the extent that the selling security holder does not utilize the cashless exercise feature, if provided). The aggregate proceeds to the selling security holder from the sale of our common stock will be the purchase price of the common stock less any discounts and commissions. The selling security holder reserves the right to accept and, together with its agents, to reject, any proposed purchase of common stock to be made directly or through agents. This prospectus covers the resale of shares of our common stock by NovaQuest, the selling security holder. As used in this prospectus, to the extent applicable, selling security holder includes holders of shares of our common stock received from the selling security holder after the date of this prospectus and who received such shares by gift or by other transfer by the selling security holder to an immediate family member of such stockholder, by will or through operation of the laws of descent and distribution, and their respective administrators, guardians, receivers, executors or other persons acting in a similar capacity.

The common stock may be sold from time to time to purchasers:

directly by the selling security holder and its successors, which includes its transferees, pledgees or donees or their successors; or

through underwriters, broker-dealers or agents who may receive compensation in the form of discounts, concessions or commissions from the selling security holder or the purchasers of the common stock. These discounts, concessions or commissions may be in excess of those customary in the types of transactions involved.

The selling security holder and any underwriters, broker-dealers or agents who participate in the distribution of the common stock may be deemed to be underwriters within the meaning of the Securities Act of 1933, as amended (the

Securities Act ). As a result, any profits on the sale of the common stock by the selling security holder and any discounts, commissions or concessions received by any such broker-dealers or agents may be deemed to be underwriting discounts, and underwriters within the meaning of the Securities Act will be subject to prospectus delivery requirements of the Securities Act. If the selling security holder is deemed to be an underwriter, it may be subject to certain statutory liabilities, including, without limitation, liabilities under Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Securities Exchange Act of 1934, as amended. If the common stock is sold through underwriters, broker-dealers or agents, the selling security holder will be responsible for underwriting discounts or commissions or agent s commissions.

Neither we nor the selling security holder can presently estimate the amount of compensation that any agent will receive. We know of no existing arrangements between the selling security holder, any other stockholder, broker, dealer, underwriter, or agent relating to the sale or distribution of the shares offered by this prospectus. At the time a particular offer of shares is made, a prospectus supplement, if required, will be distributed that will set forth the names of any agents, underwriters, or dealers and any compensation from the selling security holder, and any other required information.

The common stock may be sold in one or more transactions at:

fixed prices;

prevailing market prices at the time of sale;

prices related to such prevailing market prices;

varying prices determined at the time of sale; or

negotiated prices.

These sales may be effected in transactions:



**Table of Contents**

on any national securities exchange or quotation service on which the common stock may be listed or quoted at the time of the sale;

in the over-the-counter market;

otherwise than on such exchanges or services or in the over-the-counter market;

through the writing and exercise of options, whether such options are listed on an options exchange or otherwise; or

through the settlement of short sales.

These transactions may include block transactions or crosses. Crosses are transactions in which the same broker acts as an agent on both sides of the trade.

In connection with the sales of the common stock or otherwise, the selling security holder may enter into hedging transactions with broker-dealers or other financial institutions. These broker-dealers or other financial institutions may in turn engage in short sales of the common stock in the course of hedging their positions. The selling security holder may also sell the common stock short and deliver common stock to close out short positions, or loan or pledge common stock to broker-dealers that in turn may sell the common stock.

Broker-dealers engaged by the selling security holder may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling security holder (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The selling security holder does not expect these commissions and discounts to exceed what is customary in the types of transactions involved.

The selling security holder may from time to time pledge or grant a security interest in some or all of the shares of common stock owned by it and, if it defaults in the performance of its secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling security holders to include the pledgee, transferee or other successors in interest as selling security holders under this prospectus.

We cannot be certain that the selling security holder will sell any or all of the common stock pursuant to this prospectus. Further, we cannot assure you that the selling security holder will not transfer, devise or gift the common stock by other means not described in this prospectus, including sales under Rule 144 of the Securities Act. The common stock may be sold in some states only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification is available and complied with.

The selling security holder and any other person participating in the sale of the common stock will be subject to the Securities Exchange Act of 1934, as amended (the Exchange Act). The Exchange Act rules include, without limitation, Regulation M, which may limit the timing of purchases and sales of any of the common stock by the selling security holder and any other such persons. In addition, Regulation M may restrict the ability of any person engaged in the distribution of the common stock and the ability of any person or entity to engage in market-making activities with respect to the common stock. All of the foregoing may affect the marketability of the shares offered by the selling security holder in this Prospectus.

We have agreed to pay substantially all expenses incidental to the registration, offering and sale of the common stock to the public, other than commissions, fees and discounts of underwriters, brokers, dealers and agents. We have also agreed to indemnify NovaQuest and related persons against specified liabilities, including liabilities under the Securities Act.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers, and controlling persons, we have been informed that in the opinion of the Securities and Exchange Commission, this indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.



**Table of Contents****DESCRIPTION OF WARRANTS**

On February 27, 2006 (the Closing Date), we closed the initial transactions relating to our Common Stock and Warrant Purchase Agreement (the Purchase Agreement) dated February 24, 2006 with PharmaBio Development Inc. (d/b/a NovaQuest) (NovaQuest), an affiliate of Quintiles Transnational Corp. and Quintiles, Inc. On the Closing Date, NovaQuest purchased 359,279 shares of our common stock for a purchase price of \$2,000,000 based on the average closing stock price for the 15 trading days prior to that date. In addition, we also entered into a Class A Warrant Agreement with NovaQuest dated as of the Closing Date, whereby we issued NovaQuest a fully vested warrant to purchase 46,706 shares of our common stock at \$6.39 a share (the Initial Class A Warrant). On July 3, 2006, NovaQuest purchased 903,252 shares of our common stock for a purchase price of \$1,500,000 based on the average closing stock price for the 15 trading days prior to that date. In addition, we also entered into a Class A Warrant Agreement with NovaQuest on the same date, whereby we issued NovaQuest a fully vested warrant to purchase 117,423 shares of our common stock at \$1.91 a share (the Additional Class A Warrant). We are also parties to an Amended and Restated Class B Warrant Agreement, an Amended and Restated Class C Warrant Agreement and an Amended and Restated Class D Warrant Agreement with NovaQuest to purchase in the aggregate up to 240,000 shares of our common stock at \$1.91 a share (the Milestone Warrants). The Milestone Warrants, all dated as of February 24, 2006, and amended and restated as of June 30, 2006, will be exercisable for a ten-year period from February 24, 2006, and will vest based on the achievement of certain milestones. The Initial Class A Warrant, the Additional Class A Warrant and the Milestone Warrants will each be referred to in this prospectus as a Warrant, and collectively, as the Warrants.

The following summary description of the Warrants sets forth some general terms and provisions of the Warrants, but the summary does not purport to be complete and is qualified in all respects by reference to the actual text of the Warrants, copies of which have been filed as exhibits to the registration statement, of which this prospectus is a part. In the event of any conflict between this description and the text of the warrants, the text of the Warrants shall govern. We urge you to read the text of the Warrants because the Warrants, and not this description, define your rights as a holder of the Warrants.

**Exercise Period**

The Initial Class A Warrant is exercisable at any time on or prior to 5:00 pm Eastern Time on February 24, 2016. The Additional Class A Warrant, is exercisable at any time on or prior to 5:00 pm Eastern Time on June 30, 2016. The Milestone Warrants are exercisable, subject to a vesting schedule based on the achievement of certain milestones, at any time on or prior to 5:00 pm Eastern Time on February 24, 2016. The milestones set forth in the Milestone Warrants are subject to a confidential treatment request with the Securities and Exchange Commission. The Milestone Warrants will also fully vest upon the occurrence of certain change of control transactions.

**Exercise Price and Other Terms**

Each Warrant will entitle its holder to purchase the shares of common stock specified on the face of the Warrant, subject to adjustment in accordance with the anti-dilution and other adjustment provisions described below. The exercise price for the Initial Class A Warrant is \$6.39 per share. The exercise price for the Additional Class A Warrant and each of the Milestone Warrants is \$1.91 per share. The holder of each Warrant will be able to exercise each Warrant, in whole or part, by delivering to us the applicable warrant agreement, the exercise form properly completed and executed and payment of the aggregate exercise price for the number of shares of common stock as to which the Warrant is being exercised. The exercise price will be payable at the option of each Warrant holder:

by certified check, official bank check or wire transfer of immediately available funds, payable to the order of OrthoLogic Corp.; or

with respect to the Milestone Warrants only, by cashless exercise, pursuant to which the Milestone Warrant holder will receive the number of shares of common stock as is equal to the product of (1) the number of shares of common stock being exercised under the warrant multiplied by (2) a fraction, the numerator of which is the fair market value per share of common stock at such time minus the exercise

**Table of Contents**

price per share of common stock at such time, and the denominator of which is the fair market value per share of common stock at such time. For purposes of the cashless exercise feature in the Milestone Warrants, the fair market value of one share of our common stock shall mean the closing price reported on the NASDAQ Global Market or the principal exchange on which our common stock is listed, or the average of the closing bid and asked prices of our common stock quoted in the over-the-counter market, whichever is applicable, in each such case averaged over a period of fifteen (15) consecutive trading days immediately preceding the date that the exercise form is delivered to us. If our common stock is not traded on such market or exchange, or over-the-counter, the fair market value of our common stock will be the price per share which we could obtain from a willing buyer for shares sold by us from authorized but unissued shares, as agreed upon by us and the selling security holder in good faith or, absent such agreement, as shall be determined by arbitration instituted by either party under the rules of the American Arbitration Association.

Each Warrant may be exercised in whole or in part at the applicable exercise price until its applicable expiration date, as described above. No fractional shares of our common stock will be issued upon the exercise of the Warrants. We will pay a cash adjustment instead of fractional shares equal to the excess of the fair market value of such fractional share (determined in such reasonable manner as may be prescribed by our Board of Directors in its discretion) over the proportional part of the per share purchase price represented by such fractional share.

Upon exercise of each Warrant, we will deliver a stock certificate representing the number of shares that were exercised under the Warrant, such certificate to be issued and delivered promptly after the Warrant is exercised. If the Warrant is not fully exercised, we will execute a new warrant exercisable for the remaining shares and deliver the new warrant at the same time as the stock certificate for the exercised shares.

**Adjustments**

The exercise price of each Warrant and the number of shares of common stock purchasable upon the exercise of each Warrant may, with certain exceptions, be subject to adjustment in certain situations. We will compute such adjustment and provide the respective Warrant holder with a certificate setting forth the adjustment and the facts on which it is based. The situations requiring adjustment are as follows:

Upon a (1) reorganization, consolidation or merger with or into another corporation (other than a merger or share exchange in which we are the surviving corporation and the common stock is not exchanged for or converted to securities, property or assets by virtue of such transaction) or (2) sale, lease, license or other transfer of all or substantially all of our property or assets, an adjustment will be made to enable the Warrant holder to receive, in lieu of the shares of common stock that might otherwise have been purchased upon exercise of the Warrant, the kind and number of shares and/or other securities and/or property and assets and/or cash receivable in such event that the holder would otherwise have been entitled to receive had the holder exercised the Warrant immediately prior to such reorganization, consolidation, merger, lease, sale, license or other transfer.

Upon a reclassification or otherwise that changes any of the securities as to which purchase rights under a Warrant exist into the same or a different number of securities of any other class or classes, an adjustment will be made to enable the Warrant holder to receive, in lieu of the shares of common stock that might otherwise have been purchased upon exercise of the Warrant, the kind and number of shares and/or other securities in such event that the holder would otherwise have been entitled to receive had the holder exercised the Warrant immediately prior to such reclassification or other change or immediately prior to the record date with respect thereto, together with an appropriate adjustment to the exercise price of the Warrant.

Upon a split, subdivision or combination of the securities as to which purchase rights under a Warrant exist into a different number of securities of the same class, an adjustment to the exercise price of the Warrant will be made to enable the Warrant holder to receive the same proportion of shares that the holder would otherwise have been entitled to receive had the holder exercised the Warrant immediately prior to such split, subdivision or combination.

**Table of Contents**

**Warrant Holder Not A Stockholder**

The Warrants do not entitle the holders to any voting or other rights as are accorded to our stockholders nor are the holders subject to any liability for the exercise price or as a stockholder whether asserted by us or our creditors.

**Registration Rights**

We agreed to file a registration statement with respect to the shares of common stock issuable upon exercise of the Warrants, as well as other securities issued or to be issued from time to time to NovaQuest. The following summary of the registration rights provided in such registration rights agreement, as amended, a copy of which has been filed as an exhibit to the registration statement of which this prospectus is a part, is not complete. Unless otherwise indicated, the provisions set forth below summarize the provisions contained in the registration rights agreement, as amended. This summary is not complete and you should refer to the registration rights agreement, as amended, for a full description of the registration rights that apply to the Warrants and the underlying shares of common stock. This summary is qualified in its entirety by the registration rights agreement, as amended. In the event of any conflict between this description and the registration rights agreement, the terms of the registration rights agreement, as amended, will govern.

The holders of the Warrants and the common stock issuable upon exercise of the Warrants are entitled to the benefits of a registration rights agreement. This prospectus is part of a registration statement that we filed to meet our obligations to, among other things, register for resale shares of common stock issuable upon exercise of the Warrants by the selling security holder.

We will use our best efforts to have this registration statement declared effective as promptly as practicable following the filing thereof, and to keep it effective until the earlier of:

- (1) the sale under the registration statement of all of the shares of common stock covered by the registration rights agreement, as amended; and
- (2) such date as all remaining unsold shares of common stock covered by the registration rights agreement, as amended, can be sold by the selling security holder without restriction pursuant to the requirements of Rule 144 promulgated under the Securities Act of 1933, as amended.

We will be permitted to suspend the use of this prospectus for a period not to exceed 60 days (whether or not consecutive) during any twelve month period if our management determines in its good faith judgment that our obligation to ensure that the registration statement and prospectus are current and complete would require us to take actions that might reasonably be expected to have a materially adverse effect on us and our stockholders, or upon our determination of the existence of any fact or the happening of any event that makes any statement of a material fact made in the registration statement, the prospectus, any amendment or supplement thereto, or any document incorporated by reference therein untrue in any material respect, or that requires the making of any additions to or changes in the registration statement or the prospectus, in order to make the statements therein not misleading in any material respect. A holder of registrable securities that sells registrable securities pursuant to the registration statement generally will be required to provide information about itself and the specifics of the sale, be named as a selling security holder in the related prospectus, deliver a prospectus to purchasers, be subject to relevant civil liability provisions under the Securities Act in connection with such sales and be bound by the provisions of the registration rights agreements which are applicable to such holder.

We will give notice of the effectiveness of the registration statement to all holders who have provided us with a selling security holder notice and questionnaire. Each holder must complete the notice and questionnaire in order to be named as a selling security holder in the prospectus and prior to any intended distribution of registrable securities pursuant to the registration statement.



**Table of Contents**

We will pay all registration expenses of the registration to be incurred by us in connection with the selling security holder's exercise of its registration rights under the registration rights agreement, as amended.

**DESCRIPTION OF CAPITAL STOCK**

Our restated certificate of incorporation provides that we have the authority to issue 100 million shares of \$0.0005 par value common stock and 2 million shares of \$0.0005 par value preferred stock.

The following is a summary of the material provisions of our common stock and preferred stock. This summary does not purport to be exhaustive and is qualified in its entirety by reference to applicable Delaware law and our restated certificate of incorporation and bylaws.

**Common Stock**

The holders of common stock are entitled to one vote per share on all matters to be voted upon by the stockholders. Stockholders are not entitled to cumulate their votes for the election of directors. Subject to preferences that may be applicable to any outstanding shares of preferred stock, the holders of common stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by the board of directors out of funds legally available for that purpose. In the event of our liquidation, dissolution or winding up, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to prior distribution rights of preferred stock, if any, then outstanding. The common stock has no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of common stock are fully paid and nonassessable, and the shares of common stock to be issued upon completion of this offering will be fully paid and nonassessable.

The transfer agent for our common stock is Bank of New York.

**Preferred Stock**

Under our restated certificate of incorporation, our board of directors has the authority, without further action by our stockholders, to issue up to 2 million shares of preferred stock in one or more series and to fix the variations in the powers, preferences, rights, qualifications, limitations or restrictions of the preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences, any or all of which may be greater than the rights of our common stock. Our board of directors, without stockholder approval, can issue preferred stock with voting, conversion or other rights that could adversely affect the voting power and other rights of the holders of our common stock. As a result, preferred stock could be issued quickly with terms that will delay or prevent a change of control or make removal of management more difficult. In addition, the issuance of preferred stock may have the effect of decreasing the market price of our common stock and may adversely affect the voting and other rights of our common stock. At present, there are no shares of preferred stock outstanding and we have no current plans to issue any shares of preferred stock.

**Preferred Stock Purchase Rights**

We have entered into a Rights Agreement, dated as of March 4, 1997, as amended, with Bank of New York, pursuant to which each outstanding share of our common stock has attached one preferred stock purchase right. Each share of our common stock subsequently issued prior to the expiration of the Rights Agreement will likewise have attached one right. Under specified circumstances involving a merger, an acquisition of 15% or more of our outstanding common stock, a tender offer or exchange offer resulting in ownership of 20% or more of our common stock by an acquiring person or a sale of 50% or more of our assets or earning power, the rights will entitle the holder thereof to purchase 1/100 of a share of our Series A preferred stock for a purchase price of \$25.00 (subject to adjustment), and to receive, upon exercise, common shares having a value equal to two times the exercise price of the right. In this prospectus, unless the context requires otherwise, all references to our common stock include the accompanying rights.

Currently, the rights are not exercisable and trade with our common stock.

**Table of Contents**

**Delaware Law**

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, this statute prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years after the date that the person became an interested stockholder unless (with certain exceptions) the business combination or the transaction in which the person became an interested stockholder is approved in a prescribed manner. Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the stockholder. Generally, an interested stockholder is a person who, together with affiliates and associates, owns (or within three years prior, did own) 15% or more of the corporation's voting stock.

**Certain Anti-Takeover Provisions**

Stockholders' rights and related matters are governed by Delaware corporate law, our restated certificate of incorporation (the Restated Certificate) and our bylaws. Certain provisions of the Restated Certificate and bylaws which are summarized below may discourage or have the effect of delaying or deferring potential changes in control of OrthoLogic Corp. Our board of directors believes that these provisions are in the best interests of stockholders because they will encourage a potential acquirer to negotiate with the board of directors, which will be able to consider the interests of all stockholders in a change-in-control situation. However, the cumulative effect of these terms may be to make it more difficult to acquire and exercise control of OrthoLogic Corp. and to make changes in our management.

The Restated Certificate provides for the approval of the holders of two-thirds of our outstanding voting stock for a merger or a consolidation with, or a sale by us of all or substantially all of our assets to, any person, firm or corporation, or any group thereof, which owns, directly or indirectly, 5% or more of any class of our voting securities (an Interested Person). In addition, two-thirds approval is required with respect to other transactions involving any such Interested Person, including among other things, purchase by us or any of our subsidiaries of all or substantially all of the assets or stock of an Interested Person and any other transaction with an Interested Person which requires stockholder approval under Delaware law. The two-thirds voting requirement is not applicable to any transaction approved by our board of directors if a majority of the members of the board of directors voting to approve such transaction were elected prior to the date on which the other party became an Interested Person or certain other conditions are met (the Continuing Directors).

The Restated Certificate provides that each director will serve for a three-year term and that approximately one-third of the directors are to be elected annually. Candidates for directors shall be nominated only by the board of directors or by a stockholder who gives us written notice no later than 20 days before the annual meeting or, in the case of a special meeting, the close of business on the 15<sup>th</sup> day following the date on which notice of such special meeting is first given to the stockholders. We may have three to nine directors as determined from time to time by our Board, which currently consists of six members. Between stockholder meetings, our Board may appoint new directors to fill vacancies or newly created directorships. The Restated Certificate does not provide for cumulative voting at stockholder meetings for the election of directors. Stockholders controlling at least 50% of the outstanding common stock can elect the entire board of directors, while stockholders controlling 49% of the outstanding common stock may not be able to elect any directors. A director may be removed from office only for cause and only by the affirmative vote of a majority of the combined voting power of the then outstanding shares of capital stock entitled to vote generally in the election of directors.

The Restated Certificate further provides that stockholder action must be taken at a meeting of stockholders and may not be effected by any consent in writing. Special meetings of stockholders may be called only by the President, a majority of the board of directors or the holders of at least 35% of the outstanding shares of capital stock entitled to vote.

The Restated Certificate provides further that the foregoing provisions of the Restated Certificate and bylaws may be amended or repealed only with the affirmative vote of at least two-thirds of the shares entitled to vote, unless the amendment is recommended for stockholder approval by a majority of the Continuing Directors. These provisions exceed the usual majority vote requirement of Delaware law and are intended to prevent the holders of less than two-thirds of the voting power from circumventing the foregoing terms by amending the



**Table of Contents**

Restated Certificate or bylaws. These provisions, however, enable the holders of more than one-third of the voting power to prevent amendments to the foregoing anti-takeover provisions of the Restated Certificate or bylaws even if they were favored by the holders of a majority of the voting power.

The effect of such provisions of our Restated Certificate and bylaws may be to make more difficult the accomplishment of a merger or other takeover or change in control of OrthoLogic Corp. To the extent that these provisions have this effect, removal of our incumbent board of directors and management may be rendered more difficult. Furthermore, these provisions may make it more difficult for stockholders to participate in a tender or exchange offer for common stock and in so doing may diminish the market value of the common stock.

**Limitations on Personal Liability of Directors**

Delaware law authorizes a Delaware corporation to eliminate or limit the personal liability of a director to the corporation and its stockholders for monetary damages for breach of certain fiduciary duties as a director. We believe that such a provision is beneficial in attracting and retaining qualified directors, and accordingly the Restated Certificate includes a provision eliminating liability for monetary damages for any breach of fiduciary duty as a director, except: (1) for any breach of the duty of loyalty to OrthoLogic Corp. or our stockholders; (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law; (3) for any transaction from which the director derived an improper personal benefit; or (4) for unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law. Thus, pursuant to Delaware law, our directors are not insulated from liability for breach of their duty of loyalty (requiring that, in making a business decision, directors act in good faith and in the honest belief that the action was taken in the best interest of the corporation). The foregoing provisions of the Restated Certificate may reduce the likelihood of derivative litigation against directors and may discourage or deter stockholders or management from bringing a lawsuit against directors for breaches of the fiduciary duties, even though an action, if successful, might otherwise have benefited us and our stockholders. Further, we have entered into indemnity agreements with all of our directors and officers for the indemnification of and advancing of expenses to such persons to the fullest extent permitted by law. We have also obtained insurance for the benefit of our officers and directors insuring such persons against certain liabilities, including liabilities under the securities laws.

**LEGAL MATTERS**

The validity of the securities to be sold pursuant to this prospectus is being passed upon for us by our counsel, Quarles & Brady Streich Lang LLP, Phoenix, Arizona.

**EXPERTS**

The financial statements, the related financial statement schedule, and management's report on the effectiveness of internal control over financial reporting incorporated in this prospectus by reference from Orthologic Corp.'s Annual Report on Form 10-K for the year ended December 31, 2005 have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports (which reports (1) express an unqualified opinion on the financial statements and financial statement schedule and include an explanatory paragraph referring to the fact that OrthoLogic Corp. is in the development stage at December 31, 2005, (2) express an unqualified opinion on management's assessment regarding the effectiveness of internal control over financial reporting, and (3) express an unqualified opinion on the effectiveness of internal control over financial reporting), which are incorporated herein by reference, and have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

**WHERE YOU CAN FIND MORE INFORMATION**

REGISTRATION STATEMENT AND OTHER GOVERNMENT FILINGS

**Table of Contents**

Securities and Exchange Commission

We have filed with the Securities and Exchange Commission (the SEC) a registration statement on Form S-3 under the Securities Act with respect to our common stock offered in this prospectus. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules to the registration statement. For further information with respect to us and our common stock, we refer you to the registration statement and its exhibits and schedules. Statements contained in this prospectus as to the contents of any contract or other document are not necessarily complete and, in each instance, reference is made to the copy of that contract or document filed as an exhibit to the registration statement, each of these statements being qualified in all respects by that reference.

We are subject to the information reporting requirements of the Securities Exchange Act of 1934, as amended. As such, we file annual, quarterly and special reports, proxy statements and other documents with the SEC. These reports, proxy statements and other documents, as well as the registration statement of which this prospectus is a part and the exhibits to such registration statement, may be inspected and copied at the public reference facilities maintained by the SEC at its Public Reference Room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may also obtain copies of such material by mail from the public reference facilities of the SEC's Washington, D.C. offices, at prescribed rates. Please call the SEC at 1-800-SEC-0330 for further information on its public reference facilities. The SEC also maintains a website that contains reports, proxy and information statements and other information regarding registrants, including us, that file electronically with the SEC at the address <http://www.sec.gov>. The registration statement of which this prospectus is a part, including all exhibits and amendments to such registration statement, is available on that website.

Nasdaq

Our common stock is listed on The NASDAQ Global Market. Material filed by us can also be inspected and copied at the offices of the National Association of Securities Dealers, Inc. at 1735 K Street, N.W., Washington, D.C. 20006. OrthoLogic Corp.

Most of our SEC filings also are available at our website at <http://www.orthologic.com>. Information contained on our website is not part of this prospectus. We will provide you without charge, upon your oral or written request, with a copy of any or all reports, proxy statements and other documents we file with the SEC, as well as any or all of the documents incorporated by reference in this prospectus or the registration statement of which it is a part (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into such documents). Requests for such copies should be directed to:

OrthoLogic Corp.  
Attention: Corporate Secretary  
1275 West Washington Street  
Tempe, Arizona 85281  
Telephone number: (602) 286-5520

**INFORMATION INCORPORATED BY REFERENCE**

The SEC allows us to incorporate by reference in this prospectus certain information we file with the SEC, which means that:

incorporated documents are considered a part of this prospectus;

we can disclose important information to you by referring you to those documents; and

certain information that we file after the date of this prospectus with the SEC will automatically update and supersede information contained in this prospectus and the registration statement.

**Table of Contents**

We incorporate by reference into this prospectus the following documents, and filings we make after the initial filing of the registration statement but before it becomes effective, and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 after the date of this prospectus (other than current reports or portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K) until we sell all of the securities that we have registered under the registration statement of which this is a part:

Our Annual Report on Form 10-K, as amended, for the year ended December 31, 2005;

Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2006 and June 30, 2006;

Our Current Reports on Form 8-K filed with the SEC on January 19, 2006, February 16, 2006, March 1, 2006, March 3, 2006, March 7, 2006, March 15, 2006, April 11, 2006, May 18, 2006, June 20, 2006, July 6, 2006 and August 30, 2006;

The description of our common stock contained in our Registration Statement on Form 8-A dated January 28, 1993, and any further amendment or report updating that description; and

The description of our Series A preferred stock purchase rights contained in our Registration Statement on Form 8-A filed with the SEC on March 6, 1997, as amended as described in Forms 8-K filed with the SEC on August 24, 1999 and October 20, 2003, and any further amendment or report updating that description.

**Table of Contents**

**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 14. Other Expenses of Issuance and Distribution.**

The estimated expenses in connection with the issuance and distribution of the securities covered by this registration statement, all of which will be paid by the registrant, are as follows:

SEC registration fee (actual)	\$ 708.91(1)
Printing and engraving expenses	\$ 1,000
Legal fees and expenses	\$ 25,000
Accounting fees and expenses	\$ 30,000
Miscellaneous	\$ 1,000
 Total	 \$ 57,708.91

- (1) The filing fee of \$708.91 has been previously paid.

**Item 15. Indemnification of Directors and Officers.**

Section 145 of the General Corporation Law of the State of Delaware, or DGCL, empowers a Delaware corporation to indemnify any person who was or is a party, or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation) by reason of the fact that such person is or was an officer or director of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe such person's conduct was unlawful.

A Delaware corporation may indemnify past or present officers and directors of such corporation or of another corporation or other enterprise at the former corporation's request, in an action by or in the right of the corporation to procure a judgment in its favor under the same conditions, except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in defense of any action referred to above, or in defense of any claim, issue or matter therein, the corporation must indemnify such person against the expenses (including attorneys' fees) which such person actually and reasonably incurred in connection therewith. Section 145 further provides that any indemnification shall be made by the corporation only as authorized in each specific case upon a determination that indemnification of such person is proper because he has met the applicable standard of conduct (i) by the stockholders, (ii) by a majority vote of the directors who are not parties to such action, suit or proceeding, even though less than a quorum, (iii) by a committee of such directors designated by majority vote of such directors, even though less than a quorum, or (iv) by independent legal counsel in a written opinion, if there are no such disinterested directors, or if such disinterested directors so direct. Section 145 further provides that indemnification pursuant to its provisions is not exclusive of other rights of indemnification to which a person may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise.

We have directors' and officers' insurance which provides for indemnification of our officers and directors and certain other persons against liabilities and expenses incurred by any of them in certain stated proceedings and

**Table of Contents**

under certain stated conditions. We have also entered into separate indemnification agreements with each of our directors and certain officers that may require us, among other things, to indemnify such directors and officers against certain liabilities that may arise by reason of their status or service as directors or officers to the maximum extent permitted under Delaware law.

Our restated certificate of incorporation provides that indemnification shall be available to the fullest extent permitted by the DGCL for all current or former directors or officers. Reference is made to Item 17 for OrthoLogic's undertakings with respect to indemnification for liabilities arising under the Securities Act.

**Item 16. Exhibits.**

See the Exhibit Index following the Signatures page in this registration statement, which Exhibit Index is incorporated herein by reference.

**Item 17. Undertakings.**

(a) The undersigned registrant hereby undertakes:

(1) to file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement: (i) to include any prospectus required by Section 10(a)(3) of the Securities Act; (ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement; and (iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however,* that clauses (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) above do not apply if the registration statement is on Form S-3 and the information required to be included in a post-effective amendment by those clauses is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement;

(2) that, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof;

(3) to remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering;

(4) that, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of



**Table of Contents**

1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which the prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; and

- (iii) each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use;

(5) that, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of an undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

**Table of Contents**

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the provisions described under Item 15 above, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

II-4

---

**Table of Contents**

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Tempe, State of Arizona, on September 22, 2006.

**ORTHOLOGIC CORP.**

By: /s/ John M. Holliman, III  
John M. Holliman, III  
*Executive Chairman*

**POWER OF ATTORNEY**

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the date indicated.\*

<b>Signature</b>	<b>Title</b>
/s/ John M. Holliman, III John M. Holliman, III	Executive Chairman (Principal Executive Officer), Chairman of the Board and Director
/s/ Les M. Taeger Les M. Taeger **	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)
Augustus A. White III, MD, Ph.D. **	Director
Frederic J. Feldman, Ph.D. **	Director
Michael D. Casey **	Director
William M. Wardell, MD, Ph.D. **	Director
Elwood D. Howse, Jr.	Director

\* Each of the above signatures is affixed as of September 22, 2006.

\*\* By: /s/ John M. Holliman, III  
John M. Holliman, III, attorney in fact

S-1

---

**Table of Contents**

**ORTHOLOGIC CORP.**  
**(the Company )**  
**EXHIBIT INDEX**  
**TO**

**FORM S-3 REGISTRATION STATEMENT**

The following exhibits are filed with or incorporated by reference in this registration statement:

<b>Exhibit</b>	<b>Description</b>	<b>Incorporated Herein By Reference To</b>	<b>Filed Herewith</b>
4.1	Rights Agreement dated as of March 4, 1997, between the Company and Bank of New York, and Exhibits A, B and C thereto	Exhibit 4.1 to the Company's Registration Statement on Form 8-A filed with the SEC on March 6, 1997	
4.2	First Amendatory Agreement to March 4, 1997 Rights Agreement	Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on August 24, 1999	
4.3	Amendment No. 2 to March 4, 1997 Rights Agreement	Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the SEC on October 20, 2003	
4.4	Class A Warrant Agreement dated February 24, 2006, between OrthoLogic Corp. and PharmaBio Development Inc. (d/b/a NovaQuest)	Exhibit 4.1 to the Company's Current Report on Form 8-K, filed with the SEC on March 3, 2006 (the March 3rd 8-K )	
4.5	Amended and Restated Class B Warrant Agreement dated February 24, 2006, and amended and restated as of June 30, 2006, between OrthoLogic Corp. and PharmaBio Development Inc. (d/b/a NovaQuest) (asterisks located within exhibit denote information that has been deleted pursuant to a request for confidential treatment filed with the Securities and Exchange Commission)		X
4.6	Amended and Restated Class C Warrant Agreement dated February 24, 2006, and amended and restated as of June 30, 2006, between OrthoLogic Corp. and PharmaBio Development Inc. (d/b/a NovaQuest) (asterisks located within exhibit denote information that has been deleted pursuant to a request for confidential treatment filed with the Securities and Exchange Commission)		X

4.7	Amended and Restated Class D Warrant Agreement dated February 24, 2006, and amended and restated as of June 30, 2006, between OrthoLogic Corp. and PharmaBio Development Inc. (d/b/a NovaQuest) (asterisks located within exhibit denote information that has been deleted pursuant	X
-----	---	---

**Table of Contents**

<b>Exhibit</b>	<b>Description</b>	<b>Incorporated Herein By Reference To</b>	<b>Filed Herewith</b>
	to a request for confidential treatment filed with the Securities and Exchange Commission)		
4.8	Class A Warrant Agreement dated June 30, 2006, between OrthoLogic Corp. and PharmaBio Development Inc. (d/b/a NovaQuest)	Exhibit 4.1 to the Company's Current Report on Form 8-K, filed with the SEC on July 6, 2006	
5.1	Opinion of Quarles & Brady Streich Lang LLP*		
10.1	Common Stock and Warrant Purchase Agreement dated February 24, 2006, by and between the Company and PharmaBio Development Inc. (d/b/a NovaQuest)	Exhibit 10.1 to the Company's Registration Statement on Form S-3, filed with the SEC on April 13, 2006 (the April 13 <sup>th</sup> S-3 )	
10.2	Registration Rights Agreement dated February 24, 2006, between PharmaBio Development Inc. (d/b/a NovaQuest) and the Company,	Exhibit 10.2 to the April 13 <sup>th</sup> S-3	
10.3	Registration Rights Agreement dated February 27, 2006, by and among the Company, AzERx, Inc. and the other shareholders listed thereon	Exhibit 10.3 to the April 13 <sup>th</sup> S-3	
10.4	Amendment No.1 to Registration Rights Agreement dated June 30, 2006, between PharmaBio Development Inc. (d/b/a NovaQuest) and the Company		X
23.1	Consent of Deloitte & Touche LLP		X
23.2	Consent of Quarles & Brady Streich Lang LLP*		
24.1	Powers of Attorney	Signature page to April 13 <sup>th</sup> S-3	

\* The opinion and consent of Quarles & Brady Streich Lang will be filed in an amendment to this registration statement.