Ignyta, Inc. Form POS AM June 16, 2014

As filed with the Securities and Exchange Commission on June 16, 2014

No. 333-192956

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

POST EFFECTIVE AMENDMENT NO. 2

TO

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

IGNYTA, INC.

(Exact name of registrant as specified in its charter)

Delaware (State of Incorporation)

2834 (Primary Standard Industrial Classification Code Number) 11095 Flintkote Avenue, Suite D 59-3564984 (IRS Employer Identification No.)

San Diego, California 92121

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

Jonathan E. Lim, M.D.

President and Chief Executive Officer

11095 Flintkote Avenue, Suite D

San Diego, California 92121

(858) 255-5959

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

Copies to:

Cheston J. Larson, Esq.

Matthew T. Bush, Esq.

Matthew W. Grant, Esq.

Latham & Watkins LLP

12670 High Bluff Drive

San Diego, California 92130

(858) 523-5400

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

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 check the following box. x

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.

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.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) 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.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer " Accelerated filer

Non-accelerated filer " (Do not check if a smaller reporting company) Smaller reporting company

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 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

Effective as of June 12, 2014, Ignyta, Inc. changed its state of incorporation from Nevada to Delaware. This reincorporation was effectuated by a merger (the Reincorporation Merger) of Ignyta, Inc., a Nevada corporation (Ignyta Nevada), with and into Ignyta Operating, Inc., a Delaware corporation (Ignyta Delaware), then a wholly owned subsidiary of Ignyta Nevada. The Reincorporation Merger was approved by the requisite vote of stockholders at Ignyta Nevada s Annual Meeting of Stockholders on June 11, 2014. Ignyta Delaware is deemed to be the successor issuer of Ignyta Nevada under Rule 12g-3 of the Securities Exchange Act of 1934, as amended (the Exchange Act). Ignyta Nevada and Ignyta Delaware, as issuer and successor issuer, respectively, under Rule 12g-3 of the Exchange Act, are collectively referred to herein as the Registrant.

The Registrant is filing this Post-Effective Amendment No. 2 to the registration statement on Form S-1, File No. 333-192956 (as amended, the Registration Statement), pursuant to Rule 414 under the Securities Act of 1933, as amended (the Securities Act), solely to update the Registration Statement as a result of the Registrant s reincorporation in the State of Delaware from the State of Nevada via the Reincorporation Merger.

In accordance with Rule 414(d) under the Securities Act, except as modified by this Post-Effective Amendment No. 2, the Registrant, now as successor issuer to Ignyta Nevada pursuant to Rule 12g-3 of the Exchange Act, hereby expressly adopts the Registration Statement as its own registration statement for all purposes of the Securities Act and the Exchange Act, including the prospectus dated April 4, 2014, as amended and supplemented by the prospectus supplement dated May 14, 2014 and the prospectus supplement dated June 16, 2014.

No additional securities are being registered under this Post-Effective Amendment No. 2. All applicable registration fees were paid at the time of the original filing of the Registration Statement.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

As used in this Part II, unless the context indicates or otherwise requires, the terms we, us, our, the Company and Ignyta refer to Ignyta, Inc., a Delaware corporation (formerly a Nevada corporation prior to the June 12, 2014 reincorporation discussed below, and successor-in-interest to Ignyta Operating). The term Ignyta Operating refers to Ignyta Operating, Inc., a private Delaware corporation that, through a reverse merger acquisition completed on October 31, 2013, became Ignyta s wholly owned subsidiary. On June 12, 2014, Ignyta reincorporated to Delaware by merging with and into Ignyta Operating, with Ignyta Operating being the surviving corporation and changing its name to Ignyta, Inc. The reincorporation was approved by the requisite vote of stockholders at Ignyta s Annual Meeting of Stockholders on June 11, 2014. Ignyta Operating is deemed to be the successor issuer of Ignyta under Rule 12g-3 of the Securities Exchange Act of 1934, as amended. Ignyta and Ignyta Operating effected reverse stock splits of their capital stock at the ratios of 100-to-one and three-to-one, respectively, on October 31, 2013, and unless the context indicates or otherwise requires, all share numbers and share price data included in this Part II have been adjusted to give effect to those reverse stock splits.

Item 13. Other Expenses of Issuance and Distribution.

Set forth below is an estimate (except for registration fees, which are actual) of the approximate amount of the types of fees and expenses listed below that were paid or are payable by us in connection with the issuance and distribution of the shares of common stock to be registered by this registration statement. None of the expenses listed below are to be borne by any of the selling stockholders named in the prospectus that forms a part of this registration statement.

Expense	Amount
Registration Fees	\$ 6,964
Legal Fees	65,000
Miscellaneous Fees and Expenses	10,000
-	
Total	\$ 81,964

Item 14. Indemnification of Directors and Officers.

Our amended and restated certificate of incorporation and our amended and restated bylaws provide that we will indemnify our directors and officers to the fullest extent permitted by the Delaware General Corporation Law, which prohibits our amended and restated certificate of incorporation from limiting the liability of our directors for the following:

any breach of the director s duty of loyalty to us or our stockholders;

acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;

unlawful payment of dividends or unlawful stock repurchases or redemptions; or

any transaction from which the director derived an improper personal benefit.

Our amended and restated certificate of incorporation and our amended and restated bylaws also provide that if Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director, then the liability of our directors will be eliminated or limited to the fullest extent permitted by Delaware law, as so amended. This limitation of liability does not apply to liabilities arising under the federal securities laws and does not affect the availability of equitable remedies such as injunctive relief or rescission.

Our amended and restated certificate of incorporation and our amended and restated bylaws also provide that we shall have the power to indemnify our employees and agents to the fullest extent permitted by law. Our amended and restated bylaws also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in this capacity, regardless of whether our amended and restated bylaws would permit indemnification. We have obtained directors and officers liability insurance.

We have entered into separate indemnification agreements with our directors and executive officers, in addition to indemnification provided for in our amended and restated certificate of incorporation and amended and restated bylaws. These agreements, among other things, provide for indemnification of our directors and executive officers for expenses, judgments, fines and settlement amounts incurred by this person in any action or proceeding arising out of this person is services as a director or executive officer or at our request. We believe that these provisions in our amended and restated certificate of incorporation and amended and restated bylaws and indemnification agreements are necessary to attract and retain qualified persons as directors and executive officers.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our stockholders. A stockholder s investment may be harmed to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. Insofar as indemnification for liabilities under the Securities Act may be permitted to directors, officers or persons controlling us pursuant to the foregoing provisions, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable. There is no pending litigation or proceeding naming any of our directors or officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or officer.

Item 15. Recent Sales of Unregistered Securities.

Securities Issued by Ignyta

In August 2012, Ignyta issued 160,000 shares of its common stock to Betty Sytner, one of its officers and sole director, pursuant to the exemption from registration contained in Section 4(a)(2) of the Securities Act. Ms. Sytner was supplied with the same information that could be found in a registration statement on Form S-1 and is a sophisticated investor.

Upon the closing of the October 31, 2013 merger in which Ignyta Operating became our wholly owned subsidiary, Ignyta issued 4,916,469 shares of its common stock to 27 former stockholders of Ignyta Operating in exchange for all of the outstanding shares of Ignyta Operating s capital stock. As of the date hereof, 400,000 of such shares have been repurchased by Ignyta and 4,516,469 of such shares remain outstanding. The issuance and sale of such securities was not registered under the Securities Act, and such securities were issued in reliance upon an exemption from registration afforded by Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder. In determining that the issuance of such securities qualified for an exemption under Section 4(a)(2) of the Securities Act, Ignyta relied on the following facts: the securities were issued to recipients that each represented that it was an accredited investor as defined in Rule 501 promulgated under the Securities Act, it was acquiring the securities for investment purposes and without a view toward disposition thereof, and it had sufficient investment experience to evaluate the risks of the investment; Ignyta used no advertising or general solicitation in connection with the issuance and sale of the securities; and the securities were issued as restricted securities.

On November 6, 2013, Ignyta issued 7,740,142 shares of its common stock to 52 accredited investors pursuant to the terms of a securities purchase agreement entered into with such investors in a private placement offering (the Initial Private Placement). Ladenburg Thalmann & Co. Inc. served as the placement agent in the Initial Private Placement. On November 29, 2013, Ignyta issued 1,270,096 shares of its common stock to 195 accredited investors pursuant to the terms of a securities purchase agreement entered into with such investors in a private placement offering (the Subsequent Private Placement, and together with the Initial Private Placement, the Private Placements). National Securities Corporation served as the placement agent in the Subsequent Private Placement. All of the shares of Ignyta s common stock issued in the Private Placements were sold at a purchase price per share of \$6.00, for aggregate gross proceeds to Ignyta of approximately \$54.1 million. The issuance and sale of all such shares has not been registered under the Securities Act, and such shares were issued and sold in reliance upon an exemption from registration afforded by Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated under the Securities Act. In determining that the issuance of such shares qualified for an exemption under the Securities Act, Ignyta relied on the following facts: each of the investors represented that it is an accredited investor as defined in Rule 501 promulgated under the Securities Act, that it is acquiring the shares for investment only and not with a view towards, or for resale in connection with, the public sale or distribution thereof, and that it has sufficient investment experience to evaluate the risks of the investment; neither Ignyta nor the placement agents in the Private Placements used any advertising or general solicitation in connection with the issuance and sale of the shares; and the shares were issued as restricted securities. The securities purchase agreement entered into in connection with the Initial Private Placement contains certain anti-dilution provisions providing that if Ignyta issues and sells certain of its equity securities at a purchase price per share lower than \$6.00 within the 180-day period following November 6, 2013, the investors in the Initial Private Placement shall be entitled to receive such number of additional shares of its common stock as they would have received had such lower purchase price per share been applicable in the Initial Private Placement. Certain issuances of Ignyta s equity securities are not subject to those anti-dilution provisions, including: issuances pursuant to the exercise or conversion of outstanding options, warrants or other convertible securities; issuances in connection with acquisitions, asset purchases, licenses, collaborations or strategic transactions that are not for the primary purpose of raising capital; issuances to Ignyta s employees, officers, directors, consultants or advisors under stock incentive plans or other arrangements that are approved by Ignyta s Board of Directors; and issuances that the holders of a majority of the outstanding shares issued in the Initial Private Placement elect in writing to exclude from the

application of such provisions.

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On November 6, 2013, pursuant to the terms of a license agreement between Ignyta Operating and Nerviano Medical Sciences S.r.l (NMS), Ignyta issued to NMS a warrant to acquire up to 16,667 shares of its common stock at an exercise price of \$6.00 per share. The warrant is exercisable at any time at the option of the holder until November 6, 2018. The issuance and sale of the warrant to NMS and any shares issuable upon its exercise have not been registered under the Securities Act, and such securities have been issued in reliance upon an exemption from registration afforded by Section 4(a)(2) of the Securities Act and Regulation S promulgated thereunder. In determining that the issuance of such securities qualified for an exemption under the Securities Act, Ignyta relied on the following facts: the securities were issued to one holder that represented that it is not a U.S. person as defined in Rule 902 promulgated under the Securities Act and is not acquiring the securities for the account or benefit of any such U.S. person, it is acquiring the securities for investment purposes and without a view toward disposition thereof, and it has sufficient investment experience to evaluate the risks of the investment; Ignyta used no advertising or general solicitation in connection with the issuance of the securities; and the securities were issued as restricted securities.

On December 16, 2013, Ignyta granted, under the Ignyta Plan, an option to purchase up to 400,000 shares of its common stock to Jonathan Lim, its President and Chief Executive Officer, and an option to purchase up to 250,000 shares of its common stock to Zachary Hornby, its Chief Financial Officer and Vice President, Corporate Development, pursuant to the exemption from registration contained in Section 4(a)(2) of the Securities Act. Each of Dr. Lim and Mr. Hornby was supplied with the same information that could be found in a registration statement on Form S-1 and is a sophisticated investor.

In addition, on December 16, 2013, Ignyta granted, under the Ignyta Plan, options to purchase up to an aggregate of 125,000 shares of its common stock to five different employees, consultants or other service providers as compensation for services rendered to Ignyta. The issuance of those options and shares issuable upon their exercise has not been registered under the Securities Act, and such securities were issued in reliance upon an exemption from registration under Rule 701 promulgated under the Securities Act. In determining that the issuance of such securities qualified for an exemption under Rule 701 promulgated under the Securities Act, the following facts were relied upon: the securities were issued under the Ignyta Plan, a written compensatory benefit plan intended to comply with Rule 701; the recipients of the securities were bona fide service providers to Ignyta; and the securities were issued as restricted securities.

Securities Issued by Ignyta Operating

Upon its inception in August 2011, Ignyta Operating issued to four individuals that founded the company an aggregate of 666,668 shares of its common stock at a purchase price per share of \$0.003 and for an aggregate purchase price of \$2,000. The issuance and sale of such securities was not registered under the Securities Act, and such securities were issued in reliance upon an exemption from registration afforded by Section 4(a)(2) of the Securities Act. In determining that the issuance of such securities qualified for an exemption under Section 4(a)(2) of the Securities Act, Ignyta Operating relied on the following facts: the securities were issued to recipients that each represented that it was an accredited investor as defined in Rule 501 promulgated under the Securities Act, it was acquiring the securities for investment purposes and without a view toward disposition thereof and it had sufficient investment experience to evaluate the risks of the investment; Ignyta Operating used no advertising or general solicitation in connection with the issuance and sale of the securities; and the securities were issued as restricted securities.

In October 2011, Ignyta Operating issued and sold to one investor 416,667 shares of its series A preferred stock at a purchase price per share of \$0.60 and for an aggregate purchase price of \$250,000. In March 2012, Ignyta Operating issued and sold to the same investor an additional 416,667 share of its series A preferred stock at a purchase price per share of \$0.60 and for an aggregate purchase price of \$250,000. The issuance and sale of such securities was not registered under the Securities Act, and such securities were issued in reliance upon an exemption from registration afforded by Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder. In determining that the issuance of such securities qualified for an exemption under

Section 4(a)(2) of the Securities Act, Ignyta Operating relied on the following facts: the securities were issued to one investor that represented that it was an accredited investor as defined in Rule 501 promulgated under the Securities Act, it was acquiring the securities for investment purposes and without a view toward disposition thereof, and it had sufficient investment experience to evaluate the risks of the investment; Ignyta Operating used no advertising or general solicitation in connection with the issuance and sale of the securities; and the securities were issued as restricted securities.

In June 2012, Ignyta Operating issued and sold to six investors an aggregate of 700,000 shares of its series B preferred stock at a purchase price per share of \$3.00 and for an aggregate purchase price of \$2,100,000. In December 2012, Ignyta Operating issued and sold to fifteen investors, including three investors from the June 2012 sales, an aggregate of 1,135,000 shares of its series B preferred stock at a purchase price per share of \$3.00 and for an aggregate purchase price of \$3,405,000. The issuance and sale of such securities was not registered under the Securities Act, and such securities were issued in reliance upon an exemption from registration afforded by Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder. In determining that the issuance of such securities qualified for an exemption under Section 4(a)(2) of the Securities Act, Ignyta Operating relied on the following facts: the securities were issued to investors that each represented that it was an accredited investor as defined in Rule 501 promulgated under the Securities Act, it was acquiring the securities for investment purposes and without a view toward disposition thereof, and it had sufficient investment experience to evaluate the risks of the investment; Ignyta Operating used no advertising or general solicitation in connection with the issuance and sale of the securities; and the securities were issued as restricted securities.

In June 2012, upon entry into and as a condition of a loan and security agreement with Silicon Valley Bank (SVB), Ignyta Operating issued to SVB a warrant to acquire up to 8,334 shares of its series B preferred stock at an exercise price of \$3.00 per share. In February 2013, upon entry into and as a condition of an amendment to the loan agreement relating to an increase in the amount funded thereunder, Ignyta Operating issued to SVB an additional warrant to acquire up to a number of shares of its series B preferred stock equal to 5% of the amount funded by SVB under the loan agreement after the date of issuance of the warrant, resulting in an aggregate of 16,667 shares of its series B preferred stock following SVB s two advances under the loan agreement after such date of issuance, at an exercise price of \$3.00 per share. Each such warrant is exercisable at any time at the option of the holder until the seven-year anniversary of its date of issuance. Pursuant to and in accordance with its terms, each such warrant, (i) upon the conversion of Ignyta Operating s preferred stock into common stock prior to the closing of the October 31, 2013 merger in which Ignyta Operating became our wholly owned subsidiary, was converted into a warrant to acquire the same number of shares of Ignyta Operating s common stock, and (ii) upon the closing of such merger, was assumed by Ignyta and became a warrant to acquire the number of shares of Ignyta s common stock that would have been issued to the warrantholder on the closing of the merger had the warrant been fully exercised at such time. The issuance and sale of those warrants and any shares issuable upon their exercise has not been registered under the Securities Act, and such securities were issued in reliance upon an exemption from registration afforded by Section 4(a)(2) of the Securities Act. In determining that the issuance of such securities qualified for an exemption under Section 4(a)(2) of the Securities Act, Ignyta Operating relied on the following facts: the securities were issued to one recipient that represented that it was an accredited investor as defined in Rule 501 promulgated under the Securities Act, it was acquiring the securities for investment purposes and without a view toward disposition thereof, and it had sufficient investment experience to evaluate the risks of the investment; Ignyta Operating used no advertising or general solicitation in connection with the issuance and sale of the securities; and the securities were issued as restricted securities.

In May 2013, Ignyta Operating acquired Actagene Oncology, Inc. (Actagene) by way of Actagene s merger with and into Ignyta Operating on May 20, 2013. All consideration paid by Ignyta Operating in connection with its acquisition of Actagene was paid with shares of its common stock, totaling an aggregate of 1,583,336 shares. The issuance and sale of such securities was not registered under the Securities Act, and such securities were issued in reliance upon an exemption from registration afforded by Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D

promulgated thereunder. In determining that the issuance of such securities qualified

for an exemption under Section 4(a)(2) of the Securities Act, Ignyta Operating relied on the following facts: the securities were issued to parties that each represented that it was an accredited investor as defined in Rule 501 promulgated under the Securities Act, it was acquiring the securities for investment purposes and without a view toward disposition thereof, and it had sufficient investment experience to evaluate the risks of the investment; Ignyta Operating used no advertising or general solicitation in connection with the issuance and sale of the securities; and the securities were issued as restricted securities.

Since its inception in August 2011, Ignyta Operating granted, under the Ignyta Plan, options to purchase up to an aggregate of 442,983 shares of its common stock to 31 different employees, consultants or other service providers as compensation for services rendered to Ignyta Operating. An aggregate of 12,290 shares have been issued by Ignyta and Ignyta Operating, collectively, upon the exercise of certain of those options. The issuance of those options and shares issuable upon their exercise has not been registered under the Securities Act, and such securities were issued in reliance upon an exemption from registration under Rule 701 promulgated under the Securities Act. In determining that the issuance of such securities qualified for an exemption under Rule 701 promulgated under the Securities Act, the following facts were relied upon: the securities were issued under the Ignyta Plan, a written compensatory benefit plan intended to comply with Rule 701; the recipients of the securities were bona fide service providers to Ignyta Operating; and the securities were issued as restricted securities.

Item 16. Exhibits and Financial Statements Schedules.

(a) Exhibits.

See the Exhibit Index immediately following the signature page hereto, which is incorporated into this Item 16(a) by reference.

(b) Financial Statements Schedules.

No financial statement schedules are provided because the information called for is not applicable or not required or is shown in the financial statements or the notes thereto.

Item 17. Undertakings.

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 of 1933;
- (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.

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- (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 the 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 that remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act to any purchaser, 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 (§ 230.430A of Title 17 of the Code of Federal Regulations), 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 (§230.424 of Title 17 of the Code of Federal Regulations);
- (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 the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

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 foregoing provisions, 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized.

IGNYTA, INC.

Date: June 16, 2014 By: /s/ Jonathan E. Lim, M.D.

*By:

Attorney-in-fact

Jonathan E. Lim, M.D. President and Chief Executive Officer

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

Signature	Title	Date
/s/ Jonathan E. Lim, M.D.	President, Chief Executive Officer and	June 16, 2014
Jonathan E. Lim, M.D.	Chairman of the Board (Principal Executive Officer)	
/s/ Jacob Chacko, M.D. Jacob Chacko, M.D.	Chief Financial Officer (Principal Financial and Accounting Officer)	June 16, 2014
*	Director	June 16, 2014
Alexander Casdin		
*	Director	June 16, 2014
Heinrich Dreismann, Ph.D.		
	Director	
James Freddo, M.D.		
	Director	
James Bristol, Ph.D.		
/s/ Jonathan E. Lim, M.D. Jonathan E. Lim, M.D.		

EXHIBIT INDEX

Exhibit Number	Description of Exhibit
2.1	Agreement and Plan of Reorganization, dated May 7, 2013, by and between Ignyta Operating, Inc. (then known as Ignyta, Inc.) and Actagene Oncology, Inc. (incorporated by reference to Exhibit 2.1 to the Company s Current Report on Form 8-K filed with the SEC on November 1, 2013).
2.2	Agreement and Plan of Merger and Reorganization, dated October 31, 2013, by and among Ignyta, Inc. (then known as Infinity Oil & Gas Company), IGAS Acquisition Corp., and Ignyta Operating, Inc. (then known as Ignyta, Inc.) (incorporated by reference to Exhibit 2.2 to the Company s Current Report on Form 8-K filed with the SEC on November 1, 2013).
2.3	Agreement and Plan of Merger, dated June 12, 2014, by and between Ignyta, Inc. and Ignyta Operating, Inc. (incorporated by reference to Exhibit 2.1 to the Company s Current Report on Form 8-K12B filed with the SEC on June 13, 2014).
3.1	Second Amended and Restated Certificate of Incorporation of Ignyta, Inc. (incorporated by reference to Exhibit 3.1 to the Company s Current Report on Form 8-K12B filed with the SEC on June 13, 2014).
3.2	Amended and Restated Bylaws of Ignyta, Inc. (incorporated by reference to Exhibit 3.2 to the Company s Current Report on Form 8-K12B filed with the SEC on June 13, 2014).
4.1	Form of Common Stock certificate (incorporated by reference to Exhibit 4.1 to the Company s Current Report on Form 8-K12B filed with the SEC on June 13, 2014).
5.1 *	Opinion of Latham & Watkins LLP.
10.1 #	Ignyta, Inc. Amended and Restated 2011 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to the Company s Current Report on Form 8-K filed with the SEC on November 1, 2013).
10.2 #	Amendment No. 1 to the Ignyta, Inc. Amended and Restated 2011 Stock Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company s Current Report on Form 8-K filed with the SEC on December 19, 2013).
10.3 #	Form of Stock Option Award Agreement under the Ignyta, Inc. Amended and Restated 2011 Stock Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company s Current Report on Form 8-K filed with the SEC on November 1, 2013).
10.4 #	Form of Restricted Stock Award Agreement under the Ignyta, Inc. Amended and Restated 2011 Stock Incentive Plan (incorporated by reference to Exhibit 10.3 to the Company s Current Report on Form 8-K filed with the SEC on November 1, 2013).
10.5 #	Ignyta, Inc. Employment Inducement Incentive Award Plan and form of stock option agreement thereunder (incorporated by reference to Exhibit 10.1 to the Company s Current Report on Form 8-K filed with the SEC on April 1, 2014).
10.6#	Ignyta, Inc. 2014 Incentive Award Plan (incorporated by reference to Exhibit 10.1 to the Company s Current Report on Form 8-K12B filed with the SEC on June 13, 2014).
10.7 #	Form of Stock Option Agreement under the Ignyta, Inc. 2014 Incentive Award Plan (incorporated by reference to Exhibit 10.1 to the Company s Current Report on Form 8-K12B filed with the SEC on June 13, 2014).
10.0	

License Agreement, dated October 10, 2013, by and between Ignyta Operating, Inc. (then known as Ignyta, Inc.) and Nerviano Medical Sciences, S.r.l., as amended by that certain Amendment No. 1 to License Agreement, dated October 25, 2013, by and between Ignyta Operating, Inc. (then known as Ignyta, Inc.) and Nerviano Medical Sciences, S.r.l. (incorporated by reference to Exhibit 10.4 to the Company s Current Report on Form 8-K filed with the SEC on November 1, 2013) (Portions of this exhibit have been omitted pursuant to a grant of confidential treatment and have been filed separately with the SEC).

- Warrant to Purchase Stock, issued by Ignyta Operating, Inc. (then known as NexDx, Inc.) to Silicon Valley Bank on June 25, 2012 and assumed by Ignyta, Inc. (formerly known as Infinity Oil & Gas Company) (incorporated by reference to Exhibit 10.5 to the Company s Current Report on Form 8-K filed with the SEC on November 1, 2013).
- Warrant to Purchase Stock, issued by Ignyta Operating, Inc. (then known as Ignyta, Inc.) to Silicon Valley Bank on February 27, 2013 and assumed by Ignyta, Inc. (formerly known as Infinity Oil & Gas Company) (incorporated by reference to Exhibit 10.6 to the Company s Current Report on Form 8-K filed with the SEC on November 1, 2013).

Exhibit Number	Description of Exhibit
10.11	Amended and Restated Loan and Security Agreement, dated December 31, 2013, by and among Ignyta, Inc., Ignyta Operating, Inc. and Silicon Valley Bank (incorporated by reference to Exhibit 10.1 to the Company s Current Report on Form 8-K filed with the SEC on January 6, 2014).
10.12	Standard Industrial/Commercial Multi-Tenant Lease Gross, dated August 7, 2013, by and between Ignyta Operating, Inc. (then known as Ignyta, Inc.) and Robert C. Kyle as Trustee of the Robert C. Kyle 1979 Insurance Trust and Barbara Ann Battey as the Trustee of the Barbara Ann Battey Trust dated January 27, 2000 (incorporated by reference to Exhibit 10.8 to the Company s Current Report on Form 8-K filed with the SEC on November 1, 2013).
10.13	Lease, date February 19, 2013, by and between Ignyta Operating, Inc. (then known as Ignyta, Inc.) and BMR-Coast 9 LP (incorporated by reference to Exhibit 10.9 to the Company s Current Report on Form 8-K filed with the SEC on November 1, 2013).
10.14	Third Amendment to Lease between Ignyta Operating, Inc. and BMR-Coast 9 LP dated April 18, 2014. (incorporated by reference to Exhibit 2.1 to the Company s Current Report on Form 8-K filed with the SEC on April 23, 2014).
10.15	Form of Indemnification Agreement by and between Ignyta, Inc. and each of its current directors and executive officers (incorporated by reference to Exhibit 10.3 to the Company s Current Report on Form 8-K12B filed with the SEC on June 13, 2014).
10.16	Form of Securities Purchase Agreement, dated November 1, 2013, by and among Ignyta, Inc. and the purchasers signatory thereto (incorporated by reference to Exhibit 10.1 to the Company s Current Report on Form 8-K filed with the SEC on November 7, 2013).
10.17	Form of Registration Rights Agreement, dated November 6, 2013, by and among Ignyta, Inc. and the purchasers signatory thereto (incorporated by reference to Exhibit 10.2 to the Company s Current Report on Form 8-K filed with the SEC on November 7, 2013).
10.18	Warrant to Purchase Common Stock, dated November 6, 2013, issued by Ignyta, Inc. to Nerviano Medical Sciences S.r.l. (incorporated by reference to Exhibit 10.3 to the Company s Current Report on Form 8-K filed with the SEC on November 7, 2013).
10.19	Form of Securities Purchase Agreement, dated November 27, 2013, by and among Ignyta, Inc. and the purchasers signatory thereto (incorporated by reference to Exhibit 10.1 to the Company s Current Report on Form 8-K filed with the SEC on December 3, 2013).
10.20 #	Ignyta, Inc. Severance and Change in Control Severance Plan and Summary Plan Description (incorporated by reference to Exhibit 10.3 to the Company s Current Report on Form 8-K filed with the SEC on December 19, 2013).
10.21 #	Letter agreement, dated February 5, 2014, between Ignyta, Inc. and Dr. Patrick O Connor (incorporated by reference to Exhibit 10.1 to the Company s Current Report on Form 8-K filed with the SEC on February 6, 2014).
23.1 *	Consent of Mayer Hoffmann McCann P.C.
23.2 *	Consent of Latham & Watkins LLP (contained in Exhibit 5.1).
24.1 **	Power of Attorney (contained on signature page hereto).
101.INS **	XBRL Instance Document.
101.SCH **	XBRL Taxonomy Extension Schema Document.

101.CAL ** XBRL Taxonomy Extension Calculation Linkbase Document.

101.DEF ** XBRL Taxonomy Extension Definition Linkbase Document.

Exhibit Number Description of Exhibit 101.LAB ** XBRL Taxonomy Extension Label Linkbase Document. 101.PRE ** XBRL Taxonomy Extension Presentation Linkbase Document.

- * Filed herewith.
- ** Previously filed.
- # Management contract or compensatory plan or arrangement.

In accordance with Regulation S-T, XBRL (Extensible Business Reporting Language) information is furnished and not filed or a part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, and is deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not otherwise subject to liability under these sections.