

September 22, 2014

**VIA EDGAR & OVERNIGHT MAIL**

Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, D.C. 20549

Attention: Russell Mancuso, Branch Chief

**Re: MELA Sciences, Inc.**  
**Registration Statement on Form S-3**  
**Filed August 19, 2014**  
**File No. 333-198249**

Ladies and Gentlemen:

We are submitting this letter on behalf of MELA Sciences, Inc. (the “**Company**”) in response to comments from the staff (the “**Staff**”) of the Securities and Exchange Commission (the “**Commission**”) received by letter dated September 10, 2014 (the “**Comment Letter**”) from Russell Mancuso, Branch Chief, relating to the above-referenced registration statement on Form S-3 of the Company, filed with the Commission on August 19, 2014 (the “**Registration Statement**”). In conjunction with this letter, the Company is making amendments to the Registration Statement and is filing an amended registration statement on Form S-3 (the “**Amended Registration Statement**”) with the Commission.

For convenient reference, we have set forth below in italics each of the Staff’s comments set forth in the Comment Letter and have keyed the Company’s responses to the numbering of the comments and the headings used in the Comment Letter. All of the responses are based on information provided to Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. by representatives of the Company. Where appropriate, the Company has responded to the Staff’s comments by making changes to the disclosure in the Amended Registration Statement. Page numbers referred to in the responses reference the applicable pages of the Amended Registration Statement.

We are providing by overnight delivery to Mr. Mancuso of the Staff five courtesy copies of this letter and copies of the Amended Registration Statement that have been marked to show changes from the Registration Statement.

**Prospectus Cover Page**

1. **Comment:** *Given the nature and size of the transaction being registered, please advise the staff of the company’s basis for determining that the transaction is appropriately characterized as a transaction that is eligible to be made on a shelf basis under Rule 415(a)(1)(i). Include in your*

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*response (1) the effect on your analysis of securities previously registered for resale by the selling stockholders, and (2) a description of how you complied with your undertaking required by Regulation S-K Item 512(a)(3) with regard to such securities previously registered for resale by the selling stockholders.*

**Response:**

The Company respectfully submits that the offering by the selling stockholders (as named in the Registration Statement, the “**Selling Stockholders**”) under the Registration Statement is appropriately characterized as a secondary offering that is eligible to be made on a shelf basis under Rule 415(a)(1)(i) of the Securities Act of 1933, as amended (the “**Securities Act**”).

Rule 415(a)(1)(i) of the Securities Act provides that securities may be registered for an offering to be made on a continuous or delayed basis in the future, provided that the registration statement pertains only to securities “which are to be offered or sold solely by or on behalf of a person or persons other than the registrant, a subsidiary of the registrant or a person of which the registrant is a subsidiary.”

In addition, if the offering registered under the Registration Statement is characterized as a primary offering on behalf of the Company, (i) the Selling Stockholders would be deemed to be “underwriters” with respect to the offering (with the attendant liabilities under Section 11 of the Securities Act) and (ii) in accordance with the Staff’s long-standing interpretive position, Rule 144 would never be available to them to effect resales of their securities.

Because a recharacterization of a presumed secondary offering as a primary offering has a dramatic and potentially disastrous impact on the ability of a selling stockholder to effect the resale of its securities, and this characterization would have a chilling effect on the ability of smaller public companies — like the Company — to raise vitally needed capital, it is our view that the Staff should only recharacterize a secondary offering as being on behalf of a registrant after careful and complete review of the relevant facts and circumstances, and a conclusion that the selling stockholders are truly underwriters or mere conduits for the issuer itself. We further believe emphatically that this is not one of those cases, for the reasons described below.

Consistent with the language of Rule 415(a)(1)(i) of the Securities Act, the Company notes that the Registration Statement pertains only to securities which are to be offered and/or sold solely by or on behalf of the Selling Stockholders and not by or on behalf of the Company, its subsidiaries, or any person of which the Company is a subsidiary. Any future sales of the Shares (as defined below) will be solely for the account of the Selling Stockholders, and the Company will play no role in determining the amount and/or timing of any such sales. Further, the Company will not receive any proceeds from any future sales of the Shares, and the Company does not currently anticipate any sales of the Shares in the open market in the near future. As discussed in more detail below, the initial conversion price of the Debentures (as defined below) and the Preferred Stock (as defined below) is \$2.565, the Warrants (as defined below) are exercisable for \$2.45 per share, and the closing price of the Company’s common stock, par value \$0.001 per share (the “**Common Stock**”) as reported by NASDAQ on September 19, 2014, was \$1.86. Therefore, the Selling Stockholders may not be able to resell the securities at or above the investment price, and in fact are likely to be disincentivized from any sales in the near term, even if such sales were possible, due to the prevailing market price of the Common Stock.

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In addition, Compliance and Disclosure Interpretation 612.09 (“**C&DI 612.09**”) states that, in determining whether a purported secondary offering is instead an indirect primary offering, consideration should be given to the following factors: (i) how long the selling shareholders have held the shares; (ii) the circumstances under which they received them; (iii) their relationship to the issuer; (iv) the amount of shares involved; (v) whether the sellers are in the business of underwriting securities; and (vi) whether under all the circumstances it appears that the seller is acting as a conduit for the issuer.

In the Company’s view, based on the requirements of Rule 415(a)(1)(i) and a proper consideration of all of the factors set forth in C&DI 612.09, the Staff should conclude that the proposed offering is “solely by or on behalf of a person or persons other than the registrant, a subsidiary of the registrant or a person of which the registrant is a subsidiary” and therefore, the registration of all of the shares is permissible under Rule 415(a)(1)(i). In other words, the Company believes that the totality of the facts and circumstances in this case demonstrates that the registration of the shares relates to a valid secondary offering, and the Selling Stockholders are not acting as underwriters or otherwise as a conduit for the Company with respect to the shares covered by the Registration Statement.

### **Background**

On February 5, 2014, the Company sold to two (2) funds affiliated with Sabby Management, LLC (the “**Sabby Funds**”) and a fund affiliated with Broadfin Capital, LLC (“**Broadfin**”) (i) an aggregate of 12,300 shares of Series A Convertible Preferred Stock, with a stated value of \$1,000 per share (the “**Series A Preferred Stock**”), convertible, after taking into account a 1-for-10 reverse stock split that was effected on July 9, 2014, into 1,464,286 shares of Common Stock, at a conversion price of \$8.40, and (ii) warrants (the “**Series A Warrants**”) to purchase up to 1,329,730 shares of Common Stock (the “**February Warrant Shares**”) for aggregate gross proceeds of \$12.3 million. The warrants have an exercise price of \$7.40 per share, were immediately exercisable and have a term of five years. In April 2014, the Company filed and the Commission declared effective a Registration Statement on Form S-3 (File No. 333-194649) (the “**April Registration Statement**”) registering the resale of the Company’s Common Stock underlying the Series A Preferred Stock and the February Warrant Shares. Simultaneously with the closing of the Series B Private Placement Transaction (as defined below), the Company retired all of the shares of Series A Preferred Stock for \$12.3 million using the proceeds from the Series B Private Placement Transaction.

In order to comply with the Company’s undertaking required by Item 512(a)(3) of Regulation S-K, the Company informs the Staff that it has filed a Post-Effective Amendment to the April Registration Statement to remove from the April Registration Statement all shares of common stock underlying the Series A Preferred Stock that were previously registered for resale by certain of the Selling Stockholders because all shares of Series A Preferred Stock have been retired, as described above. Following the effectiveness of this Post-Effective Amendment, the April Registration Statement will continue to register the 1,329,730 February Warrant Shares issued to the Sabby Funds and Broadfin, two Selling Stockholders identified below and in the Amended Registration Statement.

On July 21, 2014, the Company entered into a securities purchase agreement (the “**Securities Purchase Agreement**”) with certain accredited investors (the “**Investors**”), providing for the issuance, in a private placement (the “**Series B Private Placement Transaction**”), of (i) 12,300 shares of Series B convertible preferred stock (the “**Preferred Stock**”) at a price of \$1,000 per share and with a stated value of \$1,000 per share, (ii) \$15,000,000 in aggregate principal amount of senior secured convertible

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debentures (the “**Debentures**”), and (iii) warrants (the “**Warrants**”) to purchase an aggregate of 10,643,276 shares of Common Stock at an exercise price of \$2.45 per share (the “**Warrant Shares**”). The Preferred Stock and the Debentures are convertible into Common Stock at an initial conversion price of \$2.565 per share, for an aggregate of approximately 10,643,276 shares of Common Stock (the “**Conversion Shares**”). The Debentures bear interest at a rate of 4% per annum, payable in cash or, at the Company’s discretion subject to certain conditions, in shares of Common Stock. As part of the Series B Private Placement Transaction, the Company issued to affiliates of H.C. Wainwright & Co., LLC (“**HCW**”), as compensation for acting as the placement agent for the transaction, warrants to purchase up to 350,877 shares of common stock (the “**Placement Agent Warrant Shares**,” and together with the February Warrant Shares, the Warrant Shares and the Conversion Shares, the “**Shares**”). Subject to limited exceptions, no conversion of the Preferred Stock or Debentures or exercise of the Warrants of any Investor may be effected if, after such conversion or exercise, such Investor would beneficially own more than 9.99% of the Company’s outstanding Common Stock. The closing of the Series B Private Placement Transaction occurred on July 24, 2014 (the “**Closing Date**”). The Company received gross proceeds of \$27.3 million.

On the Closing Date, the Company issued and sold (i) Debentures convertible into 389,864 shares of Common Stock and Warrants exercisable for 389,864 shares of Common Stock to two (2) funds affiliated with Cranshire Capital Advisors LLC (collectively, the “**Cranshire Capital Funds**”); (ii) Debentures convertible into 1,169,591 shares of Common Stock and Warrants exercisable for 1,169,591 shares of Common Stock to five (5) funds affiliated with Great Point Partners, LLC (collectively, the “**Great Point Funds**”); (iii) Preferred Stock and Debentures convertible into 6,256,518 shares of Common Stock and Warrants exercisable for 6,256,518 shares of Common Stock to the Sabby Funds and (iv) Preferred Stock and Debentures convertible into 2,827,303 shares of Common Stock and Warrants exercisable for 2,827,303 shares of Common Stock to Broadfin. Each of the Cranshire Capital Funds, the Great Point Funds, the Sabby Funds and Broadfin are part of their respective investment fund groups under common control. Other than those relationships, the Company is not aware of any other relationships between or among the Investors.

The Company filed the Registration Statement to fulfill its obligations under a Registration Rights Agreement dated July 21, 2014, by and among the Company and the Investors.

In order to provide a more comprehensive analysis as to why the contemplated registration of all of the Shares complies with Rule 415(a)(1)(i), the following discussion addresses each of the factors set forth in C&DI 612.09:

#### *How Long the Selling Stockholders Have Held the Shares*

The longer shares are held, the less likely it is that the selling shareholders are acting as a mere conduit for the issuer. Except for a limited amount of warrants issued to HCW, all of the Shares being registered for resale under the Registration Statement were issued and sold pursuant to the Securities Purchase Agreement on July 21, 2014. Since that time, the Investors have been at market risk. As of the date of this letter, the Investors have held the securities for approximately 60 days (and could potentially hold the securities for almost 90 days before the Company is required to have a resale registration statement declared effective with respect to the Shares). Additionally, each Series B Investor made specific representations to the Company that such investor was acquiring the securities in the ordinary course of business for such investor’s own account and not with a view towards, or for resale in connection with,

the public sale or distribution thereof. None of the Investors has sold any of the Preferred Stock, Debentures, Warrants or Shares and there is no evidence to suggest that the representations made by the Investors are false. Further, we note that no shares registered pursuant to the April Registration Statement on behalf of the Sabby Funds or Broadfin have been sold, so those holders have been at risk with respect to their investment in the Company for an even longer period, dating back to February 2014. The fact that the Shares are now being registered for resale is not evidence that the Selling Stockholders desire to effect an immediate distribution.

In Compliance and Disclosure Interpretation 116.19 (“**C&DI 116.19**”), the Staff codified its “PIPEs” interpretation, which contemplates that a valid secondary offering could occur immediately following the closing of a PIPE transaction. C&DI 116.19 provides in relevant part that:

“In a PIPE transaction, a company will be permitted to register the resale of securities prior to their issuance if the company has completed a Section 4(2)-exempt sale of the securities (or in the case of convertible securities, of the convertible security itself) to the investor, and the investor is at market risk at the time of filing of the resale registration statement....The closing of the private placement of the unissued securities must occur within a short time after the effectiveness of the resale registration statement.”

Furthermore, it is important to note that C&DI 139.13 provides that no minimum holding period is required where a company has completed a private transaction of all of the securities it is registering and the investor is at market risk at the time of filing of the resale registration statement. The Company is not aware that the Staff has taken the position that the period of time elapsing between closing and registration has raised concerns about whether the offering is a valid secondary offering. In fact, the Company believes such concerns would be inconsistent with C&DI 116.19. Since no holding period is required for a PIPE transaction to be a valid secondary offering, the period above that has already elapsed since the signing of the Securities Purchase Agreement is substantially longer than the holding period required by the Staff for valid PIPE transactions. This concept comports with longstanding custom and practice in the PIPEs marketplace.

#### *The Circumstances Under Which The Shares Were Received*

The Investors acquired the Preferred Stock, Debentures and Warrants under the Securities Purchase Agreement pursuant to the exemption from registration provided by Section 4(a)(2) of the Securities Act and/or Rule 506 of Regulation D promulgated thereunder. Accordingly, the securities held by the Selling Stockholders are, and at all times have been, restricted securities that could not have been, and may not be, offered or sold in the United States absent registration or an applicable exemption from the registration requirements of the Securities Act. In the Securities Purchase Agreement, the Investors made specific representations to the Company that they were purchasing their Preferred Stock, Debentures, Warrants or Shares for their own accounts and not with a view to the resale or distribution thereof, and that they had no present intention of selling or otherwise distributing such securities. In addition, each of the Investors represented that it had made its own independent decision to purchase securities in the Series B Private Placement Transaction. The Company is not aware of any evidence that would indicate that these specific representations were false.

In most PIPE transactions, including the Series B Private Placement Transaction, a registration statement is required to be filed shortly after closing (typically 30 days) and declared effective shortly

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thereafter. Although the Investors bargained for registration rights as part of the Series B Private Placement Transaction, registration rights, in and of themselves, do not evidence intent on the part of the Investors to sell the Shares. The Company notes that there are many reasons why investors prefer to have their shares registered other than to effect an immediate sale, including, but not limited to: (i) some private investment funds are required to mark their portfolios to market and if portfolio securities are not registered, such investors are required to mark down the book value of those securities to reflect an illiquidity discount and (ii) not registering the shares would prevent investors from taking advantage of market opportunities or from liquidating their investment if there is a fundamental shift in their original investment determination about the Company.

There is no evidence that a distribution would occur if the Registration Statement is declared effective. Under the SEC's own rules, a distribution requires "special selling efforts". Rule 100(b) of Regulation M defines a "distribution" as:

"an offering of securities, whether or not subject to registration under the Securities Act, that is distinguished from ordinary trading transactions by the magnitude of the offering and the presence of special selling efforts and selling methods." (emphasis added)

Accordingly, the mere size of a potential offering does not make a proposed sale a "distribution." Special selling efforts and selling methods must be employed before an offering can constitute a distribution. Here there is no evidence that any special selling efforts or selling methods have or would take place if all of the Shares issuable in the Series B Private Placement Transaction and covered by the Registration Statement were registered. To the Company's knowledge, no Purchaser has any agreements or understandings, directly or indirectly, with any person to distribute its shares of Common Stock, nor is there any evidence that any of the Investors have conducted any road shows or taken any other actions to condition or "prime" the market for their shares. To do so would violate the detailed representations made by them in the Securities Purchase Agreement.

#### *The Investors' Relationship to the Company*

As discussed above, the Selling Stockholders are comprised of a total of ten Investors in the Series B Private Placement Transaction and HCW. Other than the Sabby Funds and Broadfin, who participated in the Company's Series A Preferred Stock financing in February 2014, none of the Selling Stockholders had a relationship with the Company prior to their investment in the Series B Private Placement Transaction. In addition, none of the Investors may acquire Shares covered by the Registration Statement upon conversion of their Preferred Stock or Debentures or exercise of their Warrants if they would beneficially own more than 9.99% of the Company's outstanding Common Stock after such conversion or exercise.

In selling stockholder questionnaires delivered by the Investors to the Company in connection with the preparation of the Registration Statement, each of the Investors represented that it was not a broker-dealer registered with the Commission. As discussed above, each of the Investors also represented and warranted in the Securities Purchase Agreement that the Preferred Stock, Debentures, Warrants and Shares being acquired by it were being acquired for such Investor's own account, not as nominee or agent, and not with a view to the resale or distribution of any of such securities in violation of the Securities Act. The Series B Private Placement Transaction was negotiated at arm's length, with each of the Investors incurring all of the economic and market risk attendant to this type of transaction.

In fact, the Selling Stockholders are responsible for paying any broker-dealer fees or underwriting discounts or commissions directly to any broker-dealers it engages to assist in selling any Shares, as applicable. The Selling Stockholders will retain all proceeds from the sale of the Shares pursuant to the Registration Statement and the Company will not obtain any direct or indirect benefit from any amounts received from those sales.

The registration rights granted to the Selling Stockholders are traditional registration rights and are not indicative of any present intention of the Selling Stockholders to sell or distribute the Shares, much less sell or distribute the Shares on behalf of the Company. The decision to exercise these registration rights now and request that the Shares be registered with the Commission was made solely by the Selling Stockholders and not the Company. From the point of view of the Company, filing the Registration Statement entails significant legal, accounting and printing costs and filing fees with no offsetting monetary benefits to the Company. Absent the Selling Stockholders' contractual registration rights, the Company would not be filing the Registration Statement, and the Company will not receive any proceeds from any subsequent sale of the Shares. The Selling Stockholders negotiated the customary registration rights set forth for a variety of business reasons, and, in any case, the registration rights were not granted by the Company for the purpose of conducting an indirect primary offering.

#### *The Amount of Shares Involved*

Assuming all of the 21,637,429 Shares being registered for sale by the Selling Stockholders under the Registration Statement and all 1,329,730 February Warrant Shares offered by certain Selling Stockholders pursuant to the April Registration Statement are issued, on an after issued basis, they will represent approximately 81.5% of the total Common Stock presently outstanding.

The Company acknowledges the large amount of shares of Common Stock involved. While it appears that the amount of shares being registered is a factor that the Staff considers in its determination of whether an offering should be deemed a primary or secondary offering, a single-minded focus on the number of shares is inconsistent with C&DI 612.09 and the facts and circumstances recited above. As described below, the Staff's focus on "toxic" features (which are not a factor in the proposed offering) is far more likely to deter abusive practices and uncover disguised primary offerings than a focus on the number of shares being registered.

We understand that several years ago the Staff became increasingly concerned about public resales of securities purchased in "toxic" transactions. The Staff believed that public investors often did not have an appropriate understanding as to the nature of the investment being made or the negative impact that such transactions could have on the market prices of the shares involved. In many of these "toxic" transactions, an issuer would commit to issuing shares at a conversion price that floated and was subject to change in accordance with the market price of the underlying common stock. When the deals were announced, the stock prices typically fell, resulting in the issuance of significant blocks of stock. In these toxic situations, existing investors or investors who purchased shares after the announcement of the transaction frequently faced unrelenting downward pressure on the value of their investments. In too many of these cases, the shares held by non-participants in these transactions were ultimately rendered worthless.

In order to combat the effects of these toxic transactions, we understand that the Office of the Chief Counsel and the senior Staff members of the Commission's Division of Corporation Finance began to look at ways to discourage toxic transactions and to limit the impact of these transactions. One way to do so was to limit the ability of the investors in those transactions to have their shares registered.

We understand that, in order to monitor these types of transactions, the Staff compared the number of shares an issuer sought to register with the number of shares outstanding and held by non-affiliates as disclosed in the issuer's most recent Annual Report on Form 10-K. As we understand it, the Staff was instructed to look more closely at any situation where an offering involved more than approximately one-third of the public float. If an issuer sought to register more than one-third of its public float, the Staff was instructed to examine the transaction to see if it implicated Staff concerns that a secondary offering might be a "disguised" primary offering for Rule 415 purposes. However, according to the Office of the Chief Counsel, the test was intended to be a mere screening test and was not intended to substitute for a complete analysis of the factors cited in C&DI 612.09. Moreover, we understand that the Staff's focus shifted in late 2006 to "extreme convertible" transactions to avoid disrupting legitimate PIPE transactions. As described above, the terms of the Series B Private Placement Transaction do not implicate any of the concerns leading to the focus on extreme convertible situations. There is no danger that public investors do not have an appropriate understanding as to the nature of the investment being made or any negative impact on the market prices of the shares involved, since the Series B Private Placement Transaction has been fully disclosed in the Company's filings with the Commission and the securities involved are Common Stock in a fixed number of shares (not including any shares issuable as a result of interest accrued on the Debentures).

Furthermore, focusing solely on the number of shares being registered in relation to the shares outstanding or the public float has a disproportionate impact on the ability of smaller public companies to utilize shelf registration to register shares for resale, thereby severely limiting their options to raise funds. During the spring of 2014, the Company engaged in extensive discussions with its placement agent, HCW, as to its available capital-raising options. Given the Company's low public float, after lengthy consideration of all available alternatives, the Company and its Board of Directors concluded that the Series B Private Placement Transaction was the only viable financing option available to the Company. Without the financing provided by this transaction, it is very likely that the Company would have been forced to drastically reduce or even to discontinue its operations, a state of affairs that was highlighted in the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2014.<sup>1/</sup>

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<sup>1/</sup> Excerpt from Quarterly Report on Form 10-Q, "Liquidity": "The Company has experienced recurring losses and negative cash flow from operations and management expects these conditions to continue for the foreseeable future. As a result of these factors, the Company has been and continues to be dependent on raising capital from the sale of securities in order to continue to operate and to meet its obligations in the ordinary course of business. In February 2014, as noted above, the Company raised net proceeds of approximately \$11.5 million from the sale of Series A Preferred Stock, common stock and warrants to strengthen the Company's financial position.

The Company's net losses have had a significant negative impact on working capital and its financial position and may impact the Company's future ability to meet its obligations in the ordinary course of business. As a result, management believes that there is significant doubt about the Company's ability to continue as a going concern. The Company continues to assess the effects of its previously announced cost reduction plan and is prepared to reduce various operational costs as necessary. Although the Company has no specific arrangements or plans, additional capital will be needed during the upcoming months, which may take the form of equity, equity-linked or debt financing. In addition, the Company anticipates that long-term it will need to raise funds to support further advances in the technology and clinical trials. The timing and amount of any additional funding the Company may require will be affected by numerous factors, many of which are not in the control of the Company including the market acceptance of the MelaFind® system.

There can be no assurances that the Company will be able to raise additional financing in the future. Additional funds may not become available on acceptable terms or at all and there can be no assurance that any additional funding the Company obtains will be sufficient to meet the Company's financing needs. Any additional funding that the Company may obtain in the future could be dilutive to common stockholders, provide new investors with rights and preferences senior to common stockholders and provide for restrictive covenants that could limit the Company's ability to take certain actions. Unless the Company is able to generate sufficient revenues or to raise additional capital near-term, the Company's operations will be scaled back to maintain only vital activities, or discontinued."

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However, if the Staff's concern is that a distribution is taking place, the number of shares being registered should be given less weight in the Staff's analysis. The availability of Rule 415 depends on whether the offering is made by selling shareholders or deemed to be made by or on behalf of the issuer. In order for the Staff to determine that the offering is in fact on behalf of the issuer, by definition the Staff must conclude that the selling shareholders are seeking to effect a distribution of the shares. Clearly an illegal distribution of shares can take place when the amount of shares involved is less than one-third of a company's public float. In fact, it is far easier to effect an illegal distribution when the number of shares involved is relatively small in relation to the shares outstanding or the public float. When investors acquire a large stake of a small public company, particularly one with a limited trading market like that of the Company, it is virtually impossible for them to exit the stock in an orderly manner through the public markets.

Limiting the number of shares being registered does not effect any significant change in the circumstances of a proposed offering. If the Selling Stockholders are acting as a mere conduit for the Company, cutting back on the number of shares being sold does not change the investment intent of the Selling Stockholders or the ability of the Selling Stockholders to effect a distribution if, in fact, that was their intent.

The Staff's interpretative position set forth in Compliance and Disclosure Interpretation 612.12 ("**C&DI 612.12**") makes clear that the amount of securities offered, whether by an affiliate or otherwise, is not the determinative factor when considering whether an offering is properly characterized as a primary offering or a secondary offering. Other factors discussed in this letter, such as the Selling Stockholders' investment intent, and the circumstances under which the Selling Stockholders acquired the Shares, support the characterization of the proposed offering as secondary in nature. C&DI 612.12 describes a scenario where a holder of well over one-third of the outstanding stock is able to effect a valid secondary offering. The interpretation states, in relevant part, that:

"A controlling person of an issuer owns a 73% block. That person will sell the block in a registered 'at-the-market' equity offering. Rule 415(a)(4), which places certain limitations on 'at-the-market' equity offerings, applies only to offerings by or on behalf of the registrant. A secondary offering by a control person that is not deemed to be by or on behalf of the registrant is not restricted by Rule 415(a)(4)."

A focus solely on numbers of shares to be registered also ignores a fundamental aspect of these transactions: institutional investors in PIPEs are funding business plans and strategic initiatives, not looking to take control of public issuers or to illegally distribute stock. In this case, the Investors evaluated an investment in the Company on the basis of the business purpose for the Series B Private Placement Transaction and whether they believed the Company's proposed use of proceeds was rational and likely to produce above average investment returns. By focusing on the percentage of the public float or the percentage of the shares outstanding, the Staff unfairly penalizes smaller companies such as the Company by disproportionately hindering their ability to raise desperately-needed capital to execute their business plans and strategic initiatives.

Indeed, as indicated in its periodic reports, the Company's very survival (and that of companies like it) depends on being able to complete financings such as the one represented by the Series B Private Placement Transaction in a timely manner. Investors like the Selling Stockholders provide issuers like the Company, many of which are in the life sciences industry who are dealing with exceptionally lengthy paths to the development of revenue-generating products, with the means to further their business plans and, by extension, to provide returns to shareholders. We respectfully posit that cutting off the ability to finance these companies' operations through transactions such as the Series B Private Placement Transaction will create dire consequences for the companies and their investors, with no corresponding benefit from an investor protection perspective or otherwise.

*Whether the Investors are in the Business of Underwriting Securities*

None of the Investors has an underwriting relationship with the Company or is in the business of underwriting securities. The Investors are private investment funds that buy and sell portfolio securities for their own accounts. All of the Investors represented at the time of purchase that they were buying for their own accounts and not with an intention to distribute in violation of the Securities Act. There is no allegation that those representations and warranties are untrue and no factual basis for any such allegation. To the Company's knowledge, none of the Investors has sold any Preferred Stock, Debentures or Warrants since the closing of the Series B Private Placement Transaction nor have any Investors converted the Debentures or Preferred Stock or exercised the Warrants. In addition, to the Company's knowledge, no Investor has any agreements or understandings, directly or indirectly, with any person to distribute its shares of Common Stock.

Section 2(a)(11) of the Securities Act defines the term "underwriter" as any person who has purchased from an issuer with a view to, or offers or sells for an issuer in connection with, the distribution of any security, or participates or has a direct or indirect participation in any such undertaking, or participates or has a participation in the direct or indirect underwriting of any such undertaking. Each Selling Stockholder has represented that such Selling Stockholder has purchased the securities convertible into the Shares in the ordinary course for such Selling Stockholder's own account and not with a view towards, or for resale in connection with, the public sale or distribution thereof, except pursuant to sales registered under the Securities Act or under an exemption from such registration and in compliance with applicable federal and state securities laws, and they do not have a present arrangement to effect any distribution of the shares registered in the Registration Statement to or through any person or entity. Further, the actual issuance of the Shares was not conditioned on the prior effectiveness of the Registration Statement or on the Selling Stockholders' respective ability to resell any of such Shares. Accordingly, the Company believes that none of the characteristics commonly associated with acting as an underwriter are present.

*Whether Under All the Circumstances it Appears that the Investors are Acting as a Conduit for the Company*

As the facts and analysis provided above demonstrate, the Investors are not engaging in a distribution and are not acting as conduits for the Company. The Investors made fundamental decisions to invest in the Company, have held their securities for a period of time that exceeds the periods sanctioned in the Staff's C&DIs, and have represented that they purchased the securities for their own accounts and not with a view to the resale or distribution thereof, and that they had no present intention of selling or otherwise distributing such securities. In addition, each of the Investors represented that it had made its

own independent decision to purchase securities in the Series B Private Placement Transaction and there is no evidence to suggest that any of the Investors are acting in concert to effect a coordinated distribution of the shares.

None of the Investors is in the business of underwriting securities and all of the proceeds of the offering under the Registration Statement will be retained by the Selling Stockholders. In these circumstances, the Company believes that the offering it seeks to register pursuant to the Registration Statement is a valid secondary offering that should be allowed to proceed consistent with Rule 415.

**Conclusion**

For all of the foregoing reasons, the Company believes that the facts and circumstances compel the conclusion that the offering pursuant to the Registration Statement is a valid secondary offering by the Selling Stockholders eligible to be made on a shelf basis under Rule 415(a)(1)(i) and that the Company should be permitted to proceed with the registration of all of the Shares issuable in connection with the Series B Private Placement Transaction. No potential violation of Rule 415 exists and, in these circumstances, there is no risk to the investing public if the Registration Statement is declared effective as to all of the Shares issuable in connection with the Series B Private Placement Transaction.

Selling Stockholders, page 19

2. **Comment:** Please revise your disclosure to describe the relationship between the registrant and the selling stockholders regarding the ownership and redemption of the Series A preferred stock. See Item 507 of Regulation S-K. Include the amount of proceeds from the July 2014 offering that you used to repurchase securities from the selling stockholders, the amount per share that you paid the selling stockholders, and the amount per share that the selling stockholders originally paid you for the securities you repurchased from them.

**Response:** In response to the Commission's comment, the Company has revised the disclosure contained on page 22 of the Amended Registration Statement.

Signatures

3. **Comment:** Please indicate below the second paragraph of text required on the Signatures page who signed the document in the capacity of controller or principal financial officer.

**Response:** In response to the Commission's comment, the Company has revised the disclosure contained on Signature Page of the Amended Registration Statement.

\* \* \* \* \*

September 22, 2014

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We hope that the above responses and the related revisions reflected in the Amended Registration Statement will be acceptable to the Staff. Please do not hesitate to call me or Garrett M. Winslow of this firm at (617) 542-6000 with any comments or questions regarding the Amended Registration Statement and this letter. We thank you for your time and attention.

Sincerely,

/s/ Megan N. Gates

Megan N. Gates

cc: Securities and Exchange Commission

Jay Mumford, Esq.

MELA Sciences, Inc.

Ms. Rose Crane, Chief Executive Officer

Mr. Robert W. Cook, Chief Financial Officer

Ellenoff, Grossman & Schole, LLP

Robert F. Charron, Esq.

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

Garrett M. Winslow, Esq.