

DERMA SCIENCES, INC.

Form 424B5

January 23, 2014

The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement relating to these securities has been declared effective by the Securities and Exchange Commission. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and are not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Filed pursuant to Rule 424(b)(5)

Registration No. 333-192945

Subject to Completion, dated January 23, 2014

**PROSPECTUS SUPPLEMENT
(To Prospectus dated January 6, 2014)**

Shares

DERMA SCIENCES, INC.

Common Stock

\$ per share

Derma Sciences, Inc. is offering shares of common stock.

The last reported sale price of our common stock on January 22, 2014, was \$12.11 per share.

Trading symbol: NASDAQ Capital Market DSCI

Investing in the shares involves significant risks. See Risk Factors beginning on page S-4 of this prospectus supplement, on page 2 of the accompanying prospectus and the risk factors contained in our filings with the Securities and Exchange Commission, which we have incorporated by reference herein.

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 this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

| | Per Share | Total |
|--------------------------------------|-----------|-------|
| Public Offering Price | \$ | \$ |
| Underwriting Discount ⁽¹⁾ | \$ | \$ |
| Proceeds, before expenses, to us | \$ | \$ |

⁽¹⁾ We have agreed to reimburse the underwriters for certain expenses as described under Underwriting beginning on page S-10 of this prospectus supplement.

We have granted the underwriters an option, for a period of 30 days from the date of this prospectus supplement, to purchase up to an additional shares of common stock to cover over-allotments, if any. If the underwriters exercise the option in full, the total underwriting discount payable by us will be \$, and the total proceeds to us, before

expenses, will be \$.

The underwriters expect to deliver the shares to purchasers on or about January , 2014.

Piper Jaffray

Canaccord Genuity
Joint Bookrunning Managers

**The date of this prospectus supplement is January ,
2014.**

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You should rely only on the information contained in this prospectus supplement, the accompanying prospectus or information incorporated by reference herein. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus supplement or the accompanying prospectus is accurate as of any date other than the date on the front of those documents or that any document incorporated by reference is accurate as of any date other than its filing date. You should not consider this prospectus supplement or the accompanying prospectus to be an offer or solicitation relating to the shares in any jurisdiction in which such an offer or solicitation relating to the shares is not authorized. Furthermore, you should not consider this prospectus supplement or the accompanying prospectus to be an offer or solicitation relating to the shares if the person making the offer or solicitation is not qualified to do so, or if it is unlawful for you to receive such an offer or solicitation.

This prospectus supplement is part of a registration statement that we have filed with the Securities and Exchange Commission, referred to herein as the SEC, utilizing a shelf registration process. Under this shelf registration process, we are offering to sell our common stock, which we refer to herein as the shares, using this prospectus supplement and the accompanying prospectus. In this prospectus supplement, we provide you with specific information about the shares that we are selling in this offering. Both this prospectus supplement and the accompanying prospectus include important information about us, the shares being offered and other information you should know before investing. This prospectus supplement also adds, updates and changes information contained in the accompanying prospectus.

You should read this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein before investing in the shares.

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PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information appearing elsewhere in this prospectus supplement and in the accompanying prospectus and in the documents we incorporate by reference. After you read this summary, you should read and consider carefully the more detailed information and financial statements and related notes that we include in and/or incorporate by reference into this prospectus supplement and the accompanying prospectus, especially the section entitled Risk Factors. If you invest in the shares, you are assuming a high degree of risk.

Our Company

We are a medical technology company developing and delivering solutions for advanced wound care management. Our business focuses on three areas of this market:

Pharmaceutical Wound Care. We currently have one drug candidate, DSC127, in development with an initial indication of treatment of diabetic foot ulcers. We initiated two pivotal Phase 3 studies in the first quarter of 2013. We licensed the intellectual property surrounding this compound from the University of Southern California in 2007, and have the global rights to all dermal indications.

Advanced Wound Care. We have built, through internal development, acquisition or in-licensing, a line of proprietary advanced wound care dressings. This line includes MEDIHONEY®, XTRASORB®, BIOGUARD®, TCC-EZ™ and ALGICELL® Ag. These products, along with other advanced wound care products, have grown at a compound annual growth rate of 50% since 2007, and carry average gross margins of approximately 50%.

Traditional Wound Care. Our base business includes both branded and private-label/OEM dressings for basic wound care. This business has been instrumental in providing positive cash flow in support of our other developmental areas.

We maintain manufacturing facilities in Toronto, Canada and Nantong, China and a well-established network of third party suppliers for our products. The majority of our products are sold through distributors to various health care providers such as wound care centers, extended care facilities, acute care facilities, home health care agencies and physicians' offices. Some of our products are sold through retail channels. We market our products principally through direct sales representatives in the United States, Canada and the United Kingdom, and through independent distributors within other select international markets.

Recent Developments

BioD License Agreement

On January 14, 2014, we entered into a license, market development and commercialization agreement with BioDLogics, LLC, or BioD, relating to BioD's human placental based products. These products, which we plan to launch during the third quarter of 2014, will be branded as AmnioMatrix® and will expand our portfolio of advanced wound care products. Terms of the license include an upfront cash payment, royalties on product sales and performance-based milestones to be paid in cash and warrants to purchase shares of our common stock.

2013 Financial Highlights

On January 16, 2014, we announced that total revenue for the fiscal year ended December 31, 2013 is expected to be \$79.7 million, up 9.7% compared with the fiscal year ended December 31, 2012. We also announced that advanced wound care revenue for the fourth quarter ended December 31, 2013 is expected to be \$9.4 million, up 22.5% compared with the fourth quarter ended December 31, 2012, and for the full fiscal year ended December 31, 2013 advanced wound care revenue is expected to be \$33.9 million, up 36.6% compared with the same period in 2012. We expect to report full financial results for the fiscal year ended December 31, 2013 on March 14, 2014.

2014 Financial Outlook

On January 16, 2014, we announced that we expect total revenue for the fiscal year ending December 31, 2014 to increase approximately 15.5% to \$92 million, driven primarily by the continued organic advanced

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wound care revenue growth for the year of 30% to 40%. In addition, we announced that we expect our traditional wound care business segment to grow between 2% and 5% for the fiscal year ending December 31, 2014, driven by stronger sales in Canada, as well as institutional and retail private label sales growth.

DSC127 Update

On January 16, 2014, we announced that we expect to complete patient enrollment in two Phase 3 pivotal trials with DSC127 for the treatment of diabetic foot ulcers in the first half of 2015 with top line data read out in the second half of 2015. We expect that costs for the entire development program, which would include launch inventory, up to the filing of a New Drug Application with the U.S. Food and Drug Administration, or FDA, will be approximately \$55 million.

We also announced that by the end of January 2014 we will convene a meeting with clinical investigators in South Africa who will be participating in the trial, with patient screening initiation at 14 clinical sites expected to occur in February 2014.

Additionally, we announced that following meetings with the DSC127 development team and several leading experts in the treatment of diabetic foot ulcers, we filed amendments with the FDA for various minor changes to the clinical trial inclusion protocols. We believe that these changes will be helpful in accelerating the screening and enrollment of patients into the Phase 3 clinical trials. We have also hired a patient recruitment firm to provide further support for the pace of enrollment.

In addition to the ongoing development program with DSC127 for the treatment of diabetic foot ulcers, we announced that we have initiated preclinical work with this drug candidate for surgical scar reduction, a second clinical indication.

Corporate Information

Derma Sciences, Inc. was organized and incorporated in 1984. In 1994, we completed our initial public offering and our common stock has been publicly held since that time. Derma Sciences, Inc. and our subsidiaries Sunshine Products, Inc., MedEfficiency, Inc., Derma Sciences Canada Inc., Derma First Aid Products, Inc. and Derma Sciences Europe, Ltd. are referred to collectively in this prospectus supplement as the Company, we or us. Our executive offices are located at 214 Carnegie Center, Suite 300, Princeton, New Jersey and our telephone number is (609) 514-4744. Our corporate website address is www.dermasciences.com. The information contained on, or accessible through, our website is not part of this prospectus supplement or the accompanying prospectus.

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THE OFFERING

Common stock offered

shares

(shares if the underwriters exercise in full their option to purchase up to an additional shares to cover any over-allotments).

Common stock to be outstanding after this offering

shares

(shares if the underwriters exercise in full their option to purchase up to an additional shares to cover any over-allotments).

Use of proceeds

We intend to use the net proceeds from this offering for the continued development of DSC127, for sales force expansion and for general corporate purposes. See Use of Proceeds on page S-8.

Risk factors

You should read the Risk Factors beginning on page 10 of our Annual Report on Form 10-K for the year ended December 31, 2012, page 27 of our Quarterly Report on Form 10-Q for the quarter ended September 30, 2013, page S-4 of this prospectus supplement and page 2 of the accompanying prospectus and in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus for a discussion of factors you should consider carefully before deciding to invest in our common stock.

NASDAQ Capital Market symbol

DSCI

Our common stock to be outstanding after this offering is based on 17,268,486 shares outstanding as of September 30, 2013, and excludes the following as of that date:

802,800 shares of common stock issuable upon the vesting of outstanding restricted stock units;
1,832,581 shares of common stock issuable upon the exercise of stock options at a weighted average exercise price of \$7.69 per share;
2,305,272 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$9.02 per share; and

132,486 shares of common stock issuable upon conversion of our preferred stock.

Unless otherwise indicated, all information in this prospectus supplement assumes no exercise by the underwriters of their over-allotment option.

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RISK FACTORS

Investing in the shares involves a high degree of risk. You should carefully consider the risks and all other information contained in this prospectus supplement and the accompanying prospectus, including the risk factors in the section entitled Risk Factors in the accompanying prospectus and in the documents incorporated by reference herein and therein. You should also refer to the other information in this prospectus supplement and the accompanying prospectus, including our financial statements and the related notes incorporated by reference in this prospectus supplement and the accompanying prospectus.

In addition to the risk factors set forth below, please see Item 1A. Risk Factors beginning on page 10 of our Annual Report on Form 10-K for the year ended December 31, 2012 and page 27 of our Quarterly Report on Form 10-Q for the quarter ended September 30, 2013, which are incorporated herein by reference.

Risks Related to this Offering

Our management will have broad discretion in the use of the net proceeds we receive in this offering and might not apply the proceeds in ways that increase the value of your investment.

Our management will have broad discretion over the use of our net proceeds from this offering, and you will be relying on the judgment of our management regarding the application of these proceeds. Our management might not apply our net proceeds in ways that ultimately increase the value of your investment and we might not be able to yield a significant return, if any, on any investment of these net proceeds. Our failure to apply these funds effectively could have a material adverse effect on our business, delay the development of our products and cause the price of our common stock to decline.

Investors in this offering will experience immediate and substantial dilution.

The public offering price of the shares offered pursuant to this prospectus supplement is substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of common stock in this offering, you will incur immediate and substantial dilution in the as adjusted net tangible book value per share of common stock from the price per share that you pay for the common stock. In addition, the outstanding shares of our preferred stock contain adjustment provisions to their conversion ratios in the event we issue securities below market value, as such term is defined in the provisions of the shares of preferred stock. In the event the shares offered pursuant to this prospectus supplement are issued below market value, the conversion ratios of the outstanding shares of preferred stock will be subject to adjustment. See the section entitled Dilution on page S-7 of this prospectus supplement for a more detailed discussion of the dilution associated with this offering.

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CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

This prospectus supplement and the documents incorporated by reference into this prospectus supplement contain forward-looking statements. Such forward-looking statements include statements regarding, among other things, our projected sales and profitability, our growth strategies, anticipated trends in our industry, our future financing plans, and our anticipated needs for working capital. Forward-looking statements, which involve assumptions and describe our future plans, strategies, and expectations, are generally identifiable by use of the words *may*, *should*, *expect*, *anticipate*, *estimate*, *believe*, *intend*, or *project* or the negative of these words or other variations on these words or comparable terminology. This information may involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance, or achievements to be materially different from the future results, performance, or achievements expressed or implied by any forward-looking statements. Actual events or results may differ materially from those discussed in forward-looking statements as a result of various factors, including, without limitation, the risks outlined under *Risk Factors* and matters described in this prospectus supplement generally. In light of these risks and uncertainties, there can be no assurance that the forward-looking statements contained in this prospectus supplement will in fact occur.

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The following table sets forth our cash and cash equivalents and our capitalization as of September 30, 2013 on a historical basis and as adjusted to give effect to this offering and the application of the estimated net proceeds of this offering as described under Use of Proceeds. This table should be read in conjunction with Management's Discussion and Analysis of Results of Operations and Financial Condition and the consolidated financial statements and notes thereto included in our quarterly report on Form 10-Q for the nine months ended September 30, 2013, which is incorporated by reference into this prospectus supplement and the accompanying prospectus.

| | As of September 30, 2013 | |
|--|--------------------------|-------------|
| | Actual | As Adjusted |
| | (unaudited) | |
| Cash and cash equivalents and cash investments | \$27,364,788 | \$ |
| Stockholders' equity: | | |
| Convertible preferred stock, par value \$0.01: 1,468,750 shares authorized; 73,332 issued and outstanding at September 30, 2013 ⁽¹⁾ | 733 | |
| Common stock, \$0.01 par value: 35,000,000 shares authorized; 17,268,486 shares issued and outstanding at September 30, 2013; shares issued and outstanding as adjusted ⁽¹⁾ | 172,685 | |
| Additional paid-in capital | 139,051,638 | |
| Accumulated other comprehensive income | 1,978,560 | |
| Accumulated deficit | (58,744,980) | |
| Total stockholders' equity | 82,458,636 | |

(1) Excludes 59,154 shares of common stock issuable to current and previous preferred stockholders in connection with a cumulative adjustment to the conversion ratios of the shares of preferred stock.

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DILUTION

If you invest in the shares, your interest will be diluted immediately to the extent of the difference between the public offering price per share and the adjusted net tangible book value per share of our common stock after this offering.

The net tangible book value of our common stock as of September 30, 2013, was \$53,916,343, or approximately \$3.12 per share. Net tangible book value per share represents the amount of our total tangible assets, excluding goodwill and intangible assets, less total liabilities divided by the total number of shares of our common stock outstanding.

Dilution per share to new investors represents the difference between the amount per share paid by purchasers for our common stock in this offering and the net tangible book value per share of our common stock immediately following the completion of this offering.

After giving effect to the sale of the shares offered by this prospectus supplement at an offering price of \$ per share in connection with this offering and after deducting the estimated underwriting discounts and our estimated offering expenses, our as adjusted net tangible book value as of September 30, 2013 would have been \$ or approximately \$ per share. This represents an immediate increase in net tangible book value of approximately \$ per share to our existing stockholders and an immediate dilution in as adjusted net tangible book value of approximately \$ per share to purchasers of the shares in this offering, as illustrated by the following table:

| | |
|---|---------|
| Offering price per share | \$ |
| Net tangible book value per share as of September 30, 2013 | \$ 3.12 |
| Increase per share attributable to new investors | |
| As adjusted net tangible book value per share as of September 30, 2013 after giving effect to this offering | |
| Dilution per share to new investors | \$ |

If the underwriters' over-allotment option is exercised in full, our as adjusted net tangible book value per share after giving effect to this offering would be \$ per share, representing an increase in net tangible book value per share to existing stockholders of approximately \$ per share, and the dilution in our as adjusted net tangible book value per share to investors in this offering would be \$ per share.

The discussion of dilution, and the table quantifying it, assume no exercise of any outstanding options or warrants or other potentially dilutive securities. The exercise of potentially dilutive securities having an exercise price less than the offering price would increase the dilutive effect to new investors.

The table above excludes the following potentially dilutive securities as of September 30, 2013:

- 802,800 shares of common stock issuable upon the vesting of outstanding restricted stock units;
- 1,832,581 shares of common stock issuable upon the exercise of stock options at a weighted average exercise price of \$7.69 per share;
- 2,305,272 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$9.02 per share; and
- 132,486 shares of common stock issuable upon the conversion of our preferred stock.

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USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately \$, after deducting the underwriting discount and estimated expenses payable by us. We expect to receive net proceeds of approximately \$ if the underwriters' option to acquire additional shares is exercised in full.

We intend to use the net proceeds from this offering for the continued development of DSC127 for sales force expansion and for general corporate purposes. As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Accordingly, our management will retain broad discretion as to the allocation of the net proceeds from this offering. Pending application of the net proceeds as described above, we intend to temporarily invest the proceeds in short-term, interest-bearing instruments.

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DESCRIPTION OF CAPITAL STOCK

Our authorized capital as of September 30, 2013 consists of: (1) 35,000,000 shares of common stock, \$0.01 par value per share, of which 17,268,486 shares were issued and outstanding, and (2) 1,468,750 shares of preferred stock, \$0.01 par value per share, of which 73,332 were issued and outstanding.

In addition, as of September 30, 2013, there were (i) 802,800 shares of common stock issuable upon the vesting of outstanding restricted stock units; (ii) 1,832,581 shares of common stock issuable upon the exercise of stock options at a weighted average exercise price of \$7.69 per share; (iii) 2,305,272 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$9.02 per share; and (iv) 132,486 shares of common stock issuable upon the conversion of our preferred stock.

The number of shares presented above do not include any of the shares to be issued in this offering.

The material terms and provisions of our common stock are described under the caption Description of Common and Preferred Stock starting on page 6 of the accompanying prospectus.

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UNDERWRITING

We are offering the shares of common stock described in this prospectus supplement through Piper Jaffray & Co., or Piper Jaffray, and Canaccord Genuity Inc., or Canaccord Genuity, as joint bookrunning managers for this offering. We have entered into an underwriting agreement with Piper Jaffray and Canaccord Genuity, as representatives of the several underwriters. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has agreed to purchase from us, the number of shares of our common stock set forth opposite its name below.

| Underwriter | Number of Shares |
|------------------------|---------------------|
| Piper Jaffray & Co. | |
| Canaccord Genuity Inc. | |
| Total | |

Each underwriter is committed to purchase all the shares of common stock offered by us if it purchases any shares, other than those shares covered by the over-allotment option described below.

The underwriters propose to offer the common stock directly to the public at the price set forth on the cover page of this prospectus supplement and to certain dealers at that price less a concession not in excess of \$ per share. After the offering, these figures may be changed by the underwriters.

We have granted the underwriters an option to buy up to additional shares of common stock from us to cover over-allotments. The underwriters may exercise this option at any time and from time to time during the 30-day period from the date of this prospectus supplement. If any additional shares of common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

The underwriting fee is equal to the public offering price per share of common stock less the amount paid by the underwriters to us per share of common stock. The following table shows the per share and total underwriting discount to be paid to the underwriters in this offering.

| | Assuming no exercise of the over-allotment option \$ | Assuming full exercise of the over-allotment option \$ |
|-----------|---|---|
| Per share | | |
| Total | | |

We have agreed to indemnify the underwriters against certain liabilities, including civil liabilities under the Securities Act of 1933, as amended, or to contribute to payments that the underwriters may be required to make in respect of those liabilities. We have also agreed to reimburse the underwriters up to \$100,000 for the expenses incurred by them in connection with this offering.

We, each of our directors and executive officers and Comvita Ltd., one of our stockholders, are subject to lock-up agreements that prohibit us and them from offering for sale, pledging, assigning, encumbering, announcing the intention to sell, selling, contracting to sell, granting any option, right or warrant to purchase, or otherwise transferring or disposing of, any shares of our common stock or any securities convertible into or exercisable or exchangeable for shares of our common stock for a period of at least 90 days following the date of this prospectus supplement, subject

to certain exceptions, without the prior written consent of each of Piper Jaffray and Canaccord Genuity. The lock-up agreements do not prohibit our directors and executive officers and Comvita Ltd. from transferring shares of our common stock for bona fide estate or tax planning purposes, subject to certain requirements, including that the transferee be subject to the same lock-up terms.

The lock-up agreements do not prohibit us from issuing shares upon the exercise or conversion of securities outstanding on the date of this prospectus supplement. The lock-up provisions do not prevent us from selling shares to the underwriters pursuant to the underwriting agreement, or from granting options to acquire securities under our existing stock option plans or issuing shares upon the exercise or conversion of securities outstanding on the date of this prospectus supplement.

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The 90-day lock-up period in all of the lock-up agreements is subject to extension if (i) during the last 17 days of the lock-up period we issue an earnings release or material news or a material event relating to us occurs or (ii) prior to the expiration of the lock-up period, we announce that we will release earnings results during the 16-day period beginning on the last day of the lock-up period, in which case the restrictions imposed in these lock-up agreements shall continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event, unless each of Piper Jaffray and Canaccord Genuity waive the extension in writing.

Our shares are quoted on the NASDAQ Capital Market under the symbol DSCI.

To facilitate the offering, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of our common stock during and after the offering. Specifically, the underwriters may over-allot or otherwise create a short position in the common stock for their own account by selling more shares of common stock than we have sold to the underwriters. Short sales involve the sale by the underwriters of a greater number of shares than the underwriters are required to purchase in the offering. The underwriters may close out any short position by either exercising their option to purchase additional shares or purchasing shares in the open market.

In addition, the underwriters may stabilize or maintain the price of the common stock by bidding for or purchasing shares of common stock in the open market and may impose penalty bids. If penalty bids are imposed, selling concessions allowed to syndicate members or other broker-dealers participating in the offering are reclaimed if shares of common stock previously distributed in the offering are repurchased, whether in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the common stock at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of the common stock to the extent that it discourages resales of the common stock. The magnitude or effect of any stabilization or other transactions is uncertain. These transactions may be effected on the NASDAQ Capital Market or otherwise and, if commenced, may be discontinued at any time. The underwriters may also engage in passive market making transactions in our common stock. Passive market making consists of displaying bids on the NASDAQ Capital Market is limited by the prices of independent market makers and effecting purchases limited by those prices in response to order flow. Rule 103 of Regulation M promulgated by the Securities and Exchange Commission limits the amount of net purchases that each passive market maker may make and the displayed size of each bid. Passive market making may stabilize the market price of the common stock at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

This prospectus supplement and the accompanying prospectus in electronic format may be made available on the web site maintained by the underwriters and the underwriters may distribute prospectus supplements electronically. From time to time in the ordinary course of their respective businesses, the underwriters and certain of their affiliates may have in the past or may in the future engage in commercial banking or investment banking transactions with, or provide financial advisory services to, us and our affiliates for which they were paid, or may in the future be paid, customary fees.

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LEGAL MATTERS

The validity of the issuance of the shares offered by this prospectus supplement and the accompanying prospectus, together with certain other legal matters, will be passed upon for us by Thompson Hine LLP, New York, New York. Certain matters with respect to this offering will be passed upon for the underwriters by Goodwin Procter LLP, New York, New York.

EXPERTS

The consolidated financial statements of Derma Sciences, Inc. as of December 31, 2012 and 2011, and for the years then ended have been incorporated by reference herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein and upon the authority of said firm as experts in accounting and auditing.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference information into this prospectus supplement and the accompanying prospectus, which means that we can disclose important information about us by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be a part of this prospectus supplement and the accompanying prospectus.

We incorporate the following documents by reference into this prospectus supplement:

Our registration statement on Form 8-A effective February 8, 2010.

Our Annual Report on Form 10-K filed March 28, 2013.

Our Quarterly Report on Form 10-Q filed May 15, 2013 for the quarter ended March 31, 2013.

Our Quarterly Report on Form 10-Q filed August 12, 2013 for the quarter ended June 30, 2013.

Our Quarterly Report on Form 10-Q filed November 12, 2013 for the quarter ended September 30, 2013.

Our Current Report on Form 8-K filed on April 1, 2013.

Our Current Report on Form 8-K filed on May 24, 2013.

Our Current Report on Form 8-K filed on August 12, 2013.

Our Current Report on Form 8-K filed on September 5, 2013.

Our Current Report on Form 8-K filed on January 17, 2014.

We also incorporate by reference the information contained in all other documents we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than portions of these documents that are either (i) described in paragraph (e) of Item 201 of Registration S-K or paragraphs (d)(1)-(3) and (e)(5) of Item 407 of Regulation S-K promulgated by the SEC or (ii) furnished under Item 2.02 or Item 7.01 of a Current Report on Form 8-K, unless otherwise indicated therein) after the date of this prospectus supplement and prior to the termination of the offering under this prospectus supplement. The information contained in any such document will be considered part of this prospectus supplement and the accompanying prospectus from the date the document is filed with the SEC.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus supplement or the accompanying prospectus will be deemed to be modified or superseded to the extent that a

statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this prospectus supplement or the accompanying prospectus modifies or supersedes that statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement or the accompanying prospectus.

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PROSPECTUS

\$75,000,000

Derma Sciences, Inc.

**Common Stock
Warrants
Units**

From time to time, we may offer any combination of the securities described in this prospectus, either individually or in units. We may also offer common stock upon the exercise of warrants. Such securities may be offered and sold by us in one or more offerings with an initial purchase price not to exceed \$75,000,000.

This prospectus provides a general description of the securities that may be offered. We will provide specific information and the terms of the securities being offered in supplements to this prospectus. The supplements may also add, update or change information in this prospectus. Please read this prospectus and any prospectus supplements together with any documents incorporated by reference carefully before investing. This prospectus may not be used to sell securities unless accompanied by a prospectus supplement.

We may offer these securities directly to investors, through underwriters, dealers or agents, on a continuous or delayed basis. See Plan of Distribution. Each prospectus supplement will provide the terms of the plan of distribution relating to each series of securities.

Our common stock is traded on the NASDAQ Capital Market under the ticker symbol DSCI. On January 3, 2014 the closing price for the common stock as reported by NASDAQ was \$11.11.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading Risk Factors on page 2 and contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus.

This prospectus may not be used to consummate a sale of any securities unless accompanied by a prospectus supplement.

The securities may be sold directly by us to investors, through agents designated from time to time or to or through underwriters or dealers, on a continuous or delayed basis. For additional information on the methods of sale, you should refer to the section titled Plan of Distribution in this prospectus. If any agents or underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such agents or underwriters and any applicable fees, commissions, discounts and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds that we expect to receive from such sale will also be set forth in a prospectus supplement.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is January 6, 2014.

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ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement that we filed with the Securities and Exchange Commission (the SEC), utilizing a shelf registration process. Under this shelf registration process, we may offer to sell the securities described in this prospectus in one or more offerings up to a total of \$75,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities under this shelf registration, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. To the extent that any statement that we make in a prospectus supplement is inconsistent with statements made in this prospectus, the statements made in this prospectus will be deemed modified or superseded by those made in the prospectus supplement. You should read both this prospectus and any prospectus supplement, including all documents incorporated herein or therein by reference, together with additional information described under [Where You Can Find More Information](#).

We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and the accompanying prospectus supplement. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or the accompanying prospectus supplement. This prospectus and the accompanying prospectus supplement do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus and the accompanying prospectus supplement constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus and the accompanying prospectus supplement is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference even though this prospectus and any accompanying prospectus supplement is delivered or securities are sold on a later date.

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OUR COMPANY

We are a medical technology company developing and delivering solutions for advanced wound care management. Our business focuses on three areas of this market:

Pharmaceutical Wound Care. We currently have one drug candidate, DSC127, in development with an initial indication of treatment of diabetic foot ulcers. We initiated Phase 3 studies in the first quarter of 2013. We licensed the intellectual property surrounding this compound from the University of Southern California in 2007, and have the global rights to all dermal indications.

Advanced Wound Care. We have built, through internal development, acquisition or in-licensing, a line of proprietary advanced wound care dressings. This line includes MEDIHONEY®, XTRASORB®, BIOGUARD®, TCC-EZ™ and ALGICELL® Ag. These products, along with other advanced wound care products, have grown at a compound annual growth rate of 50% since 2007, and carry average gross margins of approximately 50%.

Traditional Wound Care. Our base business includes both branded and private-label/OEM dressings for basic wound care. This business has been instrumental in providing positive cash flow in support of our other developmental areas.

The Company maintains manufacturing facilities in Toronto, Canada and Nantong, China and a well-established network of third party suppliers for its products. The majority of our products are sold through distributors to various health care providers such as wound care centers, extended care facilities, acute care facilities, home health care agencies and physicians' offices. Some of our products are sold through retail channels. The Company markets its products principally through direct sales representatives in the United States, Canada and the United Kingdom, and through independent distributors within other select international markets.

Derma Sciences, Inc. was organized and incorporated in 1984. In 1994, we completed our initial public offering and our common stock has been publicly held since that time. Derma Sciences, Inc. and our subsidiaries Sunshine Products, Inc., MedEfficiency, Inc., Derma Sciences Canada Inc., Derma First Aid Products, Inc. and Derma Sciences Europe, Ltd. are referred to collectively in this prospectus as Derma Sciences, the Company, we or us. Our executive offices are located at 214 Carnegie Center, Suite 300, Princeton, New Jersey and our telephone number is (609) 514-4744. Our corporate website address is www.dermasciences.com. The information contained on, or accessible through, our website is not part of this prospectus or any prospectus supplement.

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RISK FACTORS

An investment in our securities involves a high degree of risk. Prior to making a decision about investing in our securities, you should carefully consider the specific risk factors discussed in the sections entitled "Risk Factors" contained in our annual report on Form 10-K for the fiscal year ended December 31, 2012 under the heading "Item 1A. Risk Factors" beginning on page 10, and as described or may be described in any subsequent quarterly report on Form 10-Q under the heading "Item 1A. Risk Factors," as well as in any applicable prospectus supplement and contained or to be contained in our filings with the SEC and incorporated by reference in this prospectus, together with all of the other information contained in this prospectus, or any applicable prospectus supplement. If any of the risks or uncertainties described in our SEC filings or any prospectus supplement or any additional risks and uncertainties actually occur, our business, financial condition and results of operations could be materially and adversely affected. In that case, the trading price of our securities could decline and you might lose all or part of the value of your investment.

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CAUTION REGARDING FORWARD LOOKING STATEMENTS

This prospectus and the documents incorporated by reference into this prospectus and any prospectus supplement contain forward-looking statements. Such forward-looking statements include statements regarding, among other things, (a) our projected sales and profitability, (b) our growth strategies, (c) anticipated trends in our industry, (d) our future financing plans, and (e) our anticipated needs for working capital. Forward-looking statements, which involve assumptions and describe our future plans, strategies, and expectations, are generally identifiable by use of the words may, should, expect, anticipate, estimate, believe, intend, or project or the negative of these words or on these words or comparable terminology. This information may involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance, or achievements to be materially different from the future results, performance, or achievements expressed or implied by any forward-looking statements. Actual events or results may differ materially from those discussed in forward-looking statements as a result of various factors, including, without limitation, the risks outlined under Risk Factors and matters described in this prospectus generally. In light of these risks and uncertainties, there can be no assurance that the forward-looking statements contained in this prospectus will in fact occur.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the SEC. You may read and copy any reports, statements or other information that we file at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549.

Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. The SEC also maintains a website at <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding issuers, like Derma Sciences, that file electronically with the SEC. Reports, proxy statements and other information concerning us also may be inspected at the offices of the Financial Industry Regulatory Authority, Inc., Listing Section, 1735 K Street, Washington, D.C. 20006. Additional information about Derma Sciences can also be found on our website at <http://www.dermasciences.com>. The information contained on, or accessible through, our website is not part of this prospectus, and therefore is not incorporated by reference.

The SEC allows us to incorporate by reference the information from the documents we file with them which means that we can disclose important information to you by referring you to those documents. The information which we incorporate by reference is part of this prospectus. Additional information that we file with the SEC will automatically update previous information. We incorporate the following documents by reference into this prospectus:

- (a) Our annual report on Form 10-K filed March 28, 2013 for the year ended December 31, 2012.
- (b) Our quarterly report on Form 10-Q filed May 15, 2013 for the quarter ended March 31, 2013.
- (c) Our quarterly report on Form 10-Q filed August 12, 2013 for the quarter ended June 30, 2013.
- (d) Our quarterly report on Form 10-Q filed November 12, 2013 for the quarter ended September 30, 2013.
 - (e) Our current report on Form 8-K filed April 1, 2013.
 - (f) Our current report on Form 8-K filed May 24, 2013.
 - (g) Our current report on Form 8-K filed August 12, 2013.
 - (h) Our current report on Form 8-K filed September 5, 2013.
- (i) Our registration statement on Form 8-A effective May 13, 1994, including any amendment or report filed for the purpose of updating this description.

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All documents filed by Derma Sciences pursuant to Section 13(a), 13(c), 14 and 15(d) of the Exchange Act subsequent to the date of the initial registration statement and prior to effectiveness of the registration statement, and subsequent to effectiveness of the registration statement and prior to the filing of a post-effective amendment to the registration statement which indicates that all securities offered by this registration statement have been sold, or which deregisters all securities then remaining unsold, are

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incorporated by reference into this prospectus from the date of filing of these documents. Any statement contained in this prospectus or in a document incorporated in this prospectus by reference will be considered modified or replaced for purposes of this prospectus if the statement is modified or replaced by a statement in a later document that also is incorporated by reference in this prospectus.

This prospectus is part of a registration statement we filed with the SEC under the Securities Act. As permitted by the rules and regulations of the SEC, this prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules that were filed with it. The statements contained in this prospectus as to the contents of any contract or any other document are not necessarily complete. We qualify any statement by reference to the copy of the contract or document filed as an exhibit to the registration statement. If you would like a copy of any document incorporated in this prospectus by reference (other than exhibits unless these exhibits are specifically incorporated by reference in a document), you can call or write to us at our principal executive offices, Attention: John E. Yetter, CPA, Executive Vice President, Finance and Chief Financial Officer, at 214 Carnegie Center, Suite 300, Princeton, New Jersey 08540, telephone (609) 514-4744. We will provide this information upon written or oral request and without charge to any person, including a beneficial owner, to whom a copy of this prospectus is delivered.

We have not authorized any dealer, salesperson or other individual to give any information or to make any representation not contained or incorporated by reference in this prospectus. If you receive any of that kind of information or if any of those types of representations are made to you, you must not rely on the information or representations as having been authorized by Derma Sciences. Also, you must not consider that the delivery of this prospectus or any sale made under it implies that the affairs of Derma Sciences have remained unchanged since the date of this prospectus or that the information contained in this prospectus is correct or complete as of any time after the date of this prospectus.

This prospectus and any supplement to this prospectus do not constitute an offer to sell or a solicitation of an offer to buy any securities covered by this prospectus to any person in any jurisdiction in which this offer or solicitation is unlawful.

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USE OF PROCEEDS

Unless otherwise indicated in the applicable prospectus supplement, we anticipate that the net proceeds, if any, from the sale of the securities that we may offer under this prospectus and any accompanying prospectus supplement will be used primarily for working capital and general corporate purposes. Additional information on the use of net proceeds from the sale of securities covered by this prospectus will be set forth in prospectus supplements relating to specific offerings.

DESCRIPTION OF COMMON AND PREFERRED STOCK

The following summary description of our capital stock is based on the applicable provisions of the General Corporation Law of the State of Delaware (the "DGCL"), and on the provisions of our certificate of incorporation, as amended, and our bylaws, and is qualified entirely by reference to the applicable provisions of the DGCL, our certificate of incorporation, and our bylaws. For information on how to obtain copies of such documents, please refer to the heading "Where You Can Find More Information" in this prospectus.

Common Stock

The holders of our common stock are entitled to one vote per share on all matters to be voted upon by the stockholders. There are no cumulative voting rights, so the holders of a majority of the outstanding shares have the ability to elect all of the directors. Subject to preferences that may be applicable to any outstanding preferred stock, the holders of common stock are entitled to receive ratably any dividends that may be declared from time to time by our 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 then outstanding. We have not paid any dividends on our common stock and none are contemplated in the foreseeable future. We anticipate that all earnings that may be generated from our operations will be used to finance our growth. 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 non-assessable.

As of January 3, 2014, of the 35,000,000 shares of common stock, \$0.01 par value per share, currently authorized, there were 17,363,834 shares of common stock issued and outstanding and an additional 4,989,516 shares of common stock reserved for issuance in connection with (i) 724,050 shares of common stock issuable upon the vesting of outstanding restricted stock units, (ii) 1,837,743 shares of common stock issuable upon the exercise of stock options, (iii) 2,305,272 shares of common stock issuable upon the exercise of outstanding warrants and (iii) 122,451 shares of common stock issuable upon the conversion of our preferred stock.

Preferred Stock

Our board of directors has the authority, without action by our stockholders, to designate and issue up to 1,468,750 shares of preferred stock in one or more series, and to fix for each series voting rights, if any, designations, preferences and relative, participating, optional or other special rights and such qualifications, limitations or restrictions as provided in a resolution or resolutions adopted by our board of directors. Prior to the issuance of shares of each series, our board of directors is required by the DGCL and our certificate of incorporation, as amended, to adopt resolutions and file a certificate of designation with the Secretary of State of the State of Delaware. The

certificate of designation fixes for each class or series the designations, powers, preferences, rights, qualifications, limitations and restrictions, which includes one or more of the following:

the number of shares constituting each class or series;
voting rights;
rights and terms of redemption, including sinking fund provisions;
dividend rights and rates;
dissolution;
terms concerning the distribution of assets;
conversion or exchange terms;

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redemption prices; and
liquidation preferences.

As of January 3, 2014, of the 1,468,750 shares of preferred stock, \$0.01 par value per share, currently authorized, there were 73,332 shares of preferred stock issued and outstanding, consisting of (i) 18,598 shares of Series A Convertible Preferred Stock (Series A Preferred Stock) and (ii) 54,734 shares of Series B Convertible Preferred Stock (Series B Preferred Stock).

Series A Preferred Stock

Holders of the Series A Preferred Stock are entitled to one vote for each share held of record. The holders of the Series A Preferred Stock have no preemptive or subscription rights. However, these holders may, at any time, convert their preferred shares into common shares on a 1-for-1 basis, subject to adjustment. So long as shares of the Series A Preferred Stock remain outstanding, we cannot generally, without the consent of holders of a majority of the outstanding shares of Series A Preferred Stock, (i) purchase, redeem or otherwise acquire any shares of any class of our outstanding capital stock, (ii) issue any class or series of any class of capital stock which ranks prior to or pari passu with the Series A Preferred Stock with respect to dividend rights or rights on liquidation, winding-up or dissolution of the Company, (iii) amend, alter or change the preferences or rights of any series or class of capital stock of the Company (including the Series A Preferred Stock) or the qualifications, limitations or restrictions thereof if such amendment, alteration or change adversely affects the Series A Preferred Stock, (iv) increase the authorized number of shares of Series A Preferred Stock, (v) take any action which results in the liquidation, acquisition, merger or sale of the Company or all or substantially all of its assets, (vi) take any action which results in a change in the principal business of the Company, or (vii) take any action which results in the repurchase of equity securities, other than the repurchase of equity securities from Company employees. Upon our merger, acquisition, liquidation, dissolution or winding-up, the holders of the Series A Preferred Stock are entitled to receive a liquidation preference in the amount of the purchase price of their preferred shares and together with accrued and unpaid dividends, if any. The Series A Preferred Stock liquidation preference is currently \$595,136.

Series B Preferred Stock

The terms of the Series B Convertible Preferred Stock (Series B Preferred Stock) are materially the same as the terms of the Series A Preferred Stock. For purposes of merger, acquisition, liquidation, dissolution or winding-up of the Company, the Series A Preferred Stock rank in parity with the Series B Preferred Stock. The Series B Preferred Stock liquidation preference is currently \$2,627,232.

Anti-Takeover Effect of Our Charter Documents

Provisions of our certificate of incorporation, as amended, and bylaws could make the acquisition of our company through a tender offer, a proxy contest or other means more difficult and could make the removal of incumbent officers and directors more difficult. We expect these provisions to discourage coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of our company to first negotiate with our board of directors. We believe that the benefits provided by our ability to negotiate with the proponent of an unfriendly or unsolicited proposal outweigh the disadvantages of discouraging these proposals. We believe the negotiation of an unfriendly or unsolicited proposal could result in an improvement of its terms.

Our certificate of incorporation authorizes the issuance of up to 1,468,750 shares of preferred stock, par value \$0.01 per share. Our board of directors has the authority, without the further approval of the stockholders, to issue and determine the rights and preference of any series of preferred stock. Our board of directors could issue one or more

series of preferred stock with voting, conversion, dividend, liquidation or other rights that would adversely affect the voting power and ownership interest of holders of common stock. This authority may have the effect of deterring hostile takeovers, delaying or preventing change in control, and discouraging bids for our common stock at a premium over market price.

Our bylaws establish an advance notice procedure for stockholder proposed nominations of persons for election to our board of directors to be brought before an annual meeting of our stockholders. Stockholders may consider a nomination by a person who was a stockholder of record on the record date for the meeting,

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who is entitled to vote at the meeting and who has given to the chairperson of our board of directors timely written notice, in proper form, of his or her intention to bring that business before the meeting. The bylaws do not give our board of directors the power to approve or disapprove stockholder nominations of candidates, however, our bylaws may have the effect of precluding the nomination at a meeting if the proper procedures are not followed. These provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

Under Delaware law, a special meeting of stockholders may be called by the board of directors or by any other person authorized to do so in the certificate of incorporation or the bylaws. Our bylaws authorize our board of directors to call a special meeting of stockholders. Because our stockholders do not have the right to call a special meeting, stockholders could not force stockholder consideration of a proposal over the opposition of our board of directors by calling a special meeting of stockholders prior to such time as our board of directors believed the matter should be considered or until the next annual meeting provided that the requestor met the notice requirements.

Anti-takeover Effects of Delaware Law Provisions

Section 203 of the DGCL contains provisions that may make the acquisition of control of us by means of a tender offer, open market purchase, proxy fight or otherwise, more difficult. In general, Section 203 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 of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. Section 203 defines a business combination as a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder. Section 203 defines an interested stockholder as a person who, together with affiliates and associates, owns, or, in some cases, within three years prior, did own, 15 percent or more of the corporation's voting stock. Under Section 203, a business combination between us and an interested stockholder is prohibited unless:

our board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder prior to the date the person attained the status;

upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, excluding, for purposes of determining the number of shares outstanding, shares owned by persons who are directors and also officers and issued employee stock plans, under which employee participants do not have the right to determine confidentiality whether shares held under the plan will be tendered in a tender or exchange offer; or

the business combination is approved by our board of directors on or subsequent to the date the person became an interested stockholder and authorized at an annual or special meeting of the stockholders by the affirmative vote of the holders of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

Transfer Agent and Registrar

The Transfer Agent and Registrar for the common stock is Broadridge Corporate Issuer Solutions, Inc. Its address is 51 Mercedes Way, Edgewood, New York 11717, and its telephone number is (631) 254-7400.

Trading

Our common stock is traded on the NASDAQ Capital Market under the symbol **DSCI**.

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DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of common stock in one or more series. We may issue warrants independently or together with common stock and the warrants may be attached to or separate from the common stock. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement, including a form of warrant certificate, that describes the terms of the particular series of warrants we are offering before the issuance of the related series of warrants. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to the particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular series of warrants that we may offer under this prospectus and the complete warrant agreements and warrant certificates that contain the terms of the warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants being offered, including:

The offering price and aggregate number of warrants offered;

The number of shares of common stock purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;

If applicable, the date on and after which the warrants and the related securities will be separately transferable; The effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;

The terms of our rights to redeem the warrants;

Any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;

The dates on which the right to exercise the warrants will commence and expire;

The manner in which the warrant agreements and warrants may be modified;

A discussion of any material U.S. federal income tax consequences of holding or exercising the warrants; and

Any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Each warrant will entitle the holder to purchase the common stock that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After such time on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We will set forth in the warrant certificate and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the

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warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, the warrants may be exercised on a cashless or net exercise basis.

Unless we provide otherwise in the applicable prospectus supplement, the warrants and warrant agreements will be governed by and construed in accordance with the laws of the State of Delaware and the federal laws of the United States applicable therein.

DESCRIPTION OF UNITS

We may, from time to time, issue units comprised of one or more of the other securities that may be offered under this prospectus, in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately at any time, or at any time before a specified date.

Any applicable prospectus supplement will describe:

the material terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;

any material provisions relating to the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and

any material provisions of the governing unit agreement that differ from those described above.

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PLAN OF DISTRIBUTION

We may sell the securities offered by this prospectus in any one or more of the following ways from time to time:

Directly to investors in privately negotiated transactions or through a specific bidding, auction, other process or otherwise;

To investors through agents;

Directly to agents;

To or through brokers or dealers;

To the public through underwriting syndicates led by one or more managing underwriters;

To one or more underwriters acting alone for resale to investors or to the public; or

Through a combination of any such methods of sale.

We may also sell the securities offered by this prospectus in at the market offerings within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise.

The prospectus supplement will set forth the terms of the offering and the method of distribution and will identify any firms acting as underwriters, dealers or agents in connection with the offering, including:

The name or names of any underwriters, dealers or agents;

The purchase price of the securities and the proceeds to us from the sale;

Any over-allotment options under which the underwriters may purchase additional securities from us;

Any underwriting discounts and other items constituting compensation to underwriters, dealers or agents;

Any public offering price;

Any discounts or concessions allowed or reallocated or paid to dealers; or

Any securities exchange or market on which the securities offered in the prospectus supplement may be listed.

Only those underwriters identified in such prospectus supplement are deemed to be underwriters in connection with the securities offered in the prospectus supplement. Any underwritten offering may be on a best efforts or a firm commitment basis.

The distribution of the securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be changed, at varying prices determined at the time of sale, or at prices determined as the applicable prospectus supplement specifies. The securities may be sold through a rights offering, forward contracts or similar arrangements. In any distribution of subscription rights to stockholders, if all of the underlying securities are not subscribed for, we may then sell the unsubscribed securities directly to third parties or may engage the services of one or more underwriters, dealers or agents, including standby underwriters, to sell the unsubscribed securities to third parties.

In connection with the sale of the securities, underwriters, dealers or agents may be deemed to have received compensation from us in the form of underwriting discounts or commissions and also may receive commissions from securities purchasers for whom they may act as agent. Underwriters may sell the securities to or through dealers, and the dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agent.

We will provide in the applicable prospectus supplement information regarding any underwriting discounts or other compensation that we pay to underwriters or agents in connection with the securities offering, and any discounts, concessions or commissions which underwriters allow to dealers. Underwriters,

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dealers and agents participating in the securities distribution may be deemed to be underwriters, and any discounts and commissions they receive and any profit they realize on the resale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act. Underwriters and their controlling persons, dealers and agents may be entitled, under agreements entered into with us, to indemnification against and contribution toward specific civil liabilities, including liabilities under the Securities Act.

There is currently no market for any of the offered securities other than the common stock which is listed on the NASDAQ Capital Market. Any common stock sold pursuant to a prospectus supplement will be listed on the NASDAQ Capital Market. It is possible that one or more underwriters may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice. No assurance can be given as to the liquidity of, or the trading market for, any offered securities.

In connection with an offering, the underwriters may purchase and sell securities in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of securities than they are required to purchase in an offering. Stabilizing transactions consist of bids or purchases made for the purpose of preventing or retarding a decline in the market price of the securities while an offering is in progress. The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the underwriters have repurchased securities sold by or for the account of that underwriter in stabilizing or short-covering transactions. These activities by the underwriters may stabilize, maintain or otherwise affect the market price of the securities. As a result, the price of the securities may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. Underwriters may engage in over-allotment. If any underwriters create a short position in the securities in an offering in which they sell more securities than are set forth on the cover page of the applicable prospectus supplement, the underwriters may reduce that short position by purchasing the securities in the open market.

Underwriters, dealers or agents that participate in the offer of securities, or their affiliates or associates, may have engaged or engage in transactions with and perform services for, us or our affiliates in the ordinary course of business for which they may have received or receive customary fees and reimbursement of expenses.

In compliance with the guidelines of the Financial Industry Regulatory Authority, Inc. (FINRA), the maximum discount or commission to be received by any FINRA member or independent broker-dealer may not exceed 8% of the aggregate offering price of the shares offered hereby. The plan of distribution set forth in the prospectus supplement relating to any specific offering of securities covered by this prospectus shall include appropriate disclosure addressing compliance with FINRA Conduct Rule 2720 and any such offering shall be conducted in compliance with Rule 2720.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the legality of the issuance of the shares offered in this prospectus will be passed upon for us by Thompson Hine LLP, New York, New York. Thompson Hine LLP may also provide opinions regarding certain other matters. If legal matters in connection with offerings made pursuant to this prospectus are passed upon by counsel to underwriters, dealers or agents, such counsel will be named in the prospectus supplement related to such offering.

EXPERTS

The consolidated financial statements of Derma Sciences, Inc. and subsidiaries as of December 31, 2012 and 2011, and for the years then ended, have been incorporated by reference herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

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Shares

Derma Sciences, Inc.

Common Stock

PROSPECTUS SUPPLEMENT

Piper Jaffray
Canaccord Genuity

January , 2014
