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

FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Sorrento Therapeutics, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or organization)

33-0344842
(I.R.S. Employer Identification No.)

9380 Judicial Drive
San Diego, California 92121
(Address of principal executive offices) (Zip Code)

Amended and Restated 2009 Stock Incentive Plan
(Full title of the plans)

Dr. Henry Ji
Chief Executive Officer
Sorrento Therapeutics, Inc.
9380 Judicial Drive
San Diego, CA 92121
(Name and Address of agent for service)

(858) 210-3700
(Telephone number, including area code, of agent for service)

With a copy to:
Jeffrey Fessler, Esq.
Sichenzia Ross Friedman Ference LLP
61 Broadway, 32nd Floor
New York, NY 10006
Phone (212) 930-9700
Fax (212) 930-9725

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

Large accelerated filer ☐ Accelerated filer ☒
Non-accelerated filer ☐ Smaller Reporting Company ☐
<table>
<thead>
<tr>
<th>Title of Securities to be Registered</th>
<th>Amount to be Registered(1)</th>
<th>Proposed Maximum Offering Price Per Share(2)</th>
<th>Proposed Maximum Aggregate Offering Price</th>
<th>Amount of Registration Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Stock, $.0001 par value</td>
<td>2,500,000</td>
<td>$6.52</td>
<td>$16,300,000</td>
<td>$1,642</td>
</tr>
</tbody>
</table>

(1) The securities to be registered hereby represent additional shares of common stock issuable under the Sorrento Therapeutics, Inc. Amended and Restated 2009 Stock Incentive Plan (the “Plan”). Pursuant to Rule 416(c) under the Securities Act of 1933, as amended, this Registration Statement shall also cover any additional shares of the Registrant’s common stock that become issuable under the Plan by reason of any stock dividend, stock split, recapitalization or other similar transaction that increases the number of the outstanding shares of the Registrant’s common stock.

(2) Estimated solely for purposes of calculating the registration fee in accordance with Rule 457(c) of the Securities Act of 1933, as amended, using the last sale price reported on The NASDAQ Capital Market on August 12, 2016.
INFORMATION REQUIRED PURSUANT TO GENERAL INSTRUCTION E ON FORM S-8

This Registration Statement is filed by Sorrento Therapeutics, Inc. (the “Company”) for the purpose of registering additional securities of the same class and relating to the same employee benefit plan as securities for which the Company has an effective Registration Statement on Form S-8. The Company had previously registered (i) 1,560,000 shares of the Company’s common stock, par value $0.0001 per share (the “Common Stock”) under the Sorrento Therapeutics, Inc. Amended and Restated 2009 Stock Incentive Plan (the “Plan”) on Form S-8 (Registration No. 333-195487) filed with the Securities and Exchange Commission (the “SEC”) on April 25, 2014 (the “Original Registration Statement”) and (ii) 2,200,000 shares of Common Stock under the Plan on Form S-8 (Registration No. 333-198307) filed with the SEC on August 22, 2014 (the “Second Registration Statement”). The number of shares available for issuance under the Plan was increased by 2,500,000 shares on June 30, 2016.

Pursuant to General Instruction E to Form S-8, the contents of the Original Registration Statement and Second Registration Statement are incorporated by reference into this Registration Statement.
PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The Company hereby incorporates by reference into this Registration Statement the following documents previously filed with the SEC:

- The Registrant’s Annual Report on Form 10-K for the year ended December 31, 2015 filed with the SEC on March 15, 2016, as amended pursuant to Amendment No. 1 filed with the SEC on April 29, 2016;
- The Registrant’s Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 filed with the SEC on May 10, 2016;
- The Registrant’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2016 filed with the SEC on August 8, 2016;
- The Registrant’s Current Report on Form 8-K/A filed with the SEC on February 5, 2016; and
- The description of the Registrant’s common stock set forth in the Registrant’s Registration Statement on Form 8-A (File No. 001-36150), filed with the SEC on October 23, 2013, including any amendments or reports filed for the purpose of updating such description.

All documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and prior to the filing of a post-effective amendment hereto, which indicates that all securities hereunder have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of filing of such documents. Any statement contained herein or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement. Copies of these documents are not required to be filed with this Registration Statement, and nothing in this Registration Statement shall be deemed to incorporate information furnished but not filed with the SEC.

Item 8. Exhibits.

<table>
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<tr>
<th>Exhibit Number</th>
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<tr>
<td>5.1</td>
<td>Opinion of Sichenzia Ross Friedman Ference LLP</td>
</tr>
<tr>
<td>10.1</td>
<td>Amended and Restated 2009 Stock Incentive Plan (incorporated by reference to Appendix A to the Company’s Definitive Schedule 14A as filed with the Commission on May 13, 2016)</td>
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<td>23.1</td>
<td>Consent of Mayer Hoffman McCann P.C.</td>
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<td>23.2</td>
<td>Consent of Sichenzia Ross Friedman Ference LLP (included in Exhibit 5.1)</td>
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<td>24.1</td>
<td>Power of Attorney (included on signature page)</td>
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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in San Diego, California, on the 15th day of August 2016.

SORRENTO THERAPEUTICS INC.

By: /s/ Henry Ji
Henry Ji
Chief Executive Officer and President
(Principal Executive Officer)

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each of the undersigned constitutes and appoints Henry Ji and Kevin M. Herde, and each of them acting alone, his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for such person and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement on Form S-8, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, each acting alone, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming that any such attorney-in-fact and agent, or his/her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, the following persons in the capacities and on the dates indicated have signed this Registration Statement below.

<table>
<thead>
<tr>
<th>Signature</th>
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<tr>
<td>/s/ Henry Ji</td>
<td>Director, Chief Executive Officer and President (Principal Executive Officer)</td>
<td>August 15, 2016</td>
</tr>
<tr>
<td>/s/ Kevin M. Herde</td>
<td>Chief Financial Officer (Principal Financial and Accounting Officer)</td>
<td>August 15, 2016</td>
</tr>
<tr>
<td>/s/ William S. Marth</td>
<td>Director and Chairman</td>
<td>August 15, 2016</td>
</tr>
<tr>
<td>/s/ Jaisim Shah</td>
<td>Director</td>
<td>August 15, 2016</td>
</tr>
<tr>
<td>/s/ Yue Alexander Wu</td>
<td>Director</td>
<td>August 15, 2016</td>
</tr>
<tr>
<td>/s/ Kim D. Janda</td>
<td>Director</td>
<td>August 15, 2016</td>
</tr>
<tr>
<td>/s/ David Deming</td>
<td>Director</td>
<td>August 15, 2016</td>
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VIA ELECTRONIC TRANSMISSION

Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549

Re: Sorrento Therapeutics, Inc.
    Form S-8 Registration Statement

Ladies and Gentlemen:

We refer to the above-captioned registration statement on Form S-8 (the “Registration Statement”) under the Securities Act of 1933, as amended (the “Act”), filed by Sorrento Therapeutics, Inc., a Delaware corporation (the “Company”), with the Securities and Exchange Commission.

We have examined the originals, photocopies, certified copies or other evidence of such records of the Company, certificates of officers of the Company and public officials, and other documents as we have deemed relevant and necessary as a basis for the opinion hereinafter expressed. In such examination, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as certified copies or photocopies and the authenticity of the originals of such latter documents.

Based on our examination mentioned above, we are of the opinion that the securities being registered to be sold pursuant to the Registration Statement are duly authorized and will be, when sold in the manner described in the Registration Statement, legally and validly issued, and fully paid and non-assessable.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement. In giving the foregoing consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Act, or the rules and regulations of the Securities and Exchange Commission.

Very truly yours,

Sichenzia Ross Friedman Ference LLP

Sichenzia Ross Friedman Ference LLP
CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of Sorrento Therapeutics, Inc. and Subsidiaries, of our report dated March 14, 2016, with respect to the consolidated financial statements and the effectiveness of internal controls over financial reporting, which appears in the Annual Report on Form 10-K for the year ended December 31, 2015.

/s/ Mayer Hoffman McCann P.C.
San Diego, California
August 15, 2016