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

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**POST-EFFECTIVE AMENDMENT NO. 1 TO  
FORM S-1  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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**TOCAGEN INC.**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**2834**  
(Primary Standard Industrial  
Classification Code Number)

**26-1243872**  
(I.R.S. Employer  
Identification Number)

**3030 Bunker Hill Street, Suite 230  
San Diego, CA 92109  
(858) 412-8400**

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

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**Martin J. Duvall  
Chief Executive Officer  
Tocagen Inc.**

**3030 Bunker Hill Street, Suite 230  
San Diego, CA 92109  
(858) 412-8400**

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

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*Copies to:*

**Frederick T. Muto, Esq.  
Kenneth J. Rollins, Esq.  
Karen E. Deschaine, Esq.  
Cooley LLP  
4401 Eastgate Mall  
San Diego, California 92121  
(858) 550-6000**

**Cheston J. Larson, Esq.  
Matthew T. Bush, Esq.  
Chris G. Geissinger, Esq.  
Latham & Watkins LLP  
12670 High Bluff Drive  
San Diego, California 92130  
(858) 523-5400**

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

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

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

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

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration number of the earlier effective registration statement for the same offering.  333-216574

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

Large accelerated filer

Accelerated filer

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

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

**This post-effective amendment shall become effective upon filing with the Securities and Exchange Commission in accordance with Rule 462(d) under the Securities Act of 1933, as amended.**

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## Explanatory Note

This Post-Effective Amendment No. 1 (this "Amendment") relates to the Registrant's Registration Statement on Form S-1 (File No. 333-216574), as amended, declared effective on April 12, 2017 by the Securities and Exchange Commission. The Registrant is filing this Amendment for the sole purpose of replacing Exhibit 5.1 to the Registration Statement. This Amendment does not modify any provision of Part I or Part II of the Registration Statement other than Item 16(a) and the Exhibit Index of Part II as set forth below.

### PART II INFORMATION NOT REQUIRED IN PROSPECTUS

**Item 16. Exhibits and financial statement schedules.**

*(a) Exhibits.*

See the Exhibit Index attached to this registration statement, which is incorporated by reference herein.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Post-Effective Amendment No. 1 to Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on the 13th day of April, 2017.

### TOCAGEN INC.

By: /s/ Martin J. Duvall  
Martin J. Duvall  
*Chief Executive Officer*

Pursuant to the requirements of the Securities Act of 1933, as amended, this Post-Effective Amendment No. 1 to Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Martin J. Duvall</u> Martin J. Duvall	Chief Executive Officer and Member of the Board of Directors <i>Principal Executive Officer</i>	April 13, 2017
<u>/s/ Mark Foletta</u> Mark Foletta	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	April 13, 2017
<u>/s/ Faheem Hasnain*</u> Faheem Hasnain	Chairman of the Board of Directors	April 13, 2017
<u>/s/ Franklin M. Berger*</u> Franklin M. Berger	Member of the Board of Directors	April 13, 2017
<u>/s/ Dennis N. Berman*</u> Dennis N. Berman	Member of the Board of Directors	April 13, 2017
<u>/s/ Thomas E. Darcy*</u> Thomas E. Darcy	Member of the Board of Directors	April 13, 2017
<u>/s/ Harry E. Gruber, M.D.*</u> Harry E. Gruber, M.D.	Member of the Board of Directors	April 13, 2017
<u>/s/ Lori Kunkel, M.D.*</u> Lori Kunkel, M.D.	Member of the Board of Directors	April 13, 2017
<u>/s/ David Parkinson, M.D.*</u> David Parkinson, M.D.	Member of the Board of Directors	April 13, 2017
<u>/s/ Paul Schimmel, Ph.D.*</u> Paul Schimmel, Ph.D.	Member of the Board of Directors	April 13, 2017

\* Pursuant to Power of Attorney

By: /s/ Martin J. Duvall  
Martin J. Duvall  
*Attorney-in-fact*

**EXHIBIT INDEX**

**Exhibit  
Number**

**Description of Document**

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5.1

Opinion of Cooley LLP.



Karen E. Deschaine  
+1 858 550 6088  
kdeschaine@cooley.com

April 13, 2017

Tocagen Inc.  
3030 Bunker Hill Street, Suite 230  
San Diego, CA 92109

Ladies and Gentlemen:

We have represented Tocagen Inc., a Delaware corporation (the "**Company**"), in connection with the filing by the Company of a Registration Statement (No. 333-216574) on Form S-1 (the "**Registration Statement**") with the Securities and Exchange Commission, including a related prospectus filed with the Registration Statement (the "**Prospectus**"), covering an underwritten public offering of up to 9,775,000 shares (the "**Shares**") of the Company's common stock, par value \$0.001, which includes up to 8,500,000 Shares to be sold by the Company (the "**Company Shares**") and up to 1,275,000 Shares that may be sold by the Company pursuant to the exercise of an over-allotment option granted to the underwriters (the "**Over-allotment Shares**").

In connection with this opinion, we have examined and relied upon (a) the Registration Statement and related Prospectus, (b) the Company's Fifteenth Amended and Restated Certificate of Incorporation, as amended, and Bylaws, as currently in effect, (c) the Company's Amended and Restated Certificate of Incorporation, filed as Exhibit 3.2 to the Registration Statement and the Company's Amended and Restated Bylaws, filed as Exhibit 3.4 to the Registration Statement, each of which will be in effect upon the closing of the offering contemplated by the Registration Statement, and (d) the originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness and authenticity of all documents submitted to us as originals and the conformity to originals of all documents submitted to us as copies. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought independently to verify such matters. Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion as to whether the laws of any particular jurisdiction are applicable to the subject matter hereof. We are not rendering any opinion as to compliance with any federal or state antifraud law, rule or regulation relating to securities, or to the sale or issuance thereof.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Company Shares and the Over-allotment Shares, when sold and issued against payment therefor as described in the Registration Statement and the related Prospectus, will be validly issued, fully paid and non-assessable.

4401 EASTGATE MALL, SAN DIEGO, CA 92121 T: (858) 550-6000 F: (858) 550-6420 WWW.COOLEY.COM



Tocagen Inc.  
April 13, 2017  
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We consent to the reference to our firm under the caption "Legal Matters" in the Prospectus included in the Registration Statement and to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

**COOLEY LLP**

By: /s/ Karen E. Deschaine  
Karen E. Deschaine

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