UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 5 TO

FORM S-8

REGISTRATION STATEMENT UNDER
THE SECURITIES ACT OF 1933

IMMUNOGEN, INC.

(Exact Name of Registrant as Specified in its Charter)

Massachusetts (State of Incorporation)

04-2726691

(I.R.S. Employer Identification Number)

830 Winter Street
Waltham, Massachusetts 02451
(781) 895-0600
(Address of Principal Executive Offices)

RESTATED STOCK OPTION PLAN

(Full Title of the Plan)

Daniel M. Junius
President and Chief Executive Officer
ImmunoGen, Inc.
830 Winter Street
Waltham, Massachusetts 02451
(781) 895-0600

(Name, Address and Telephone Number, Including Area Code, of Agent for Service)

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 x

Accelerated filer o

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

EXPLANATORY NOTE

ImmunoGen, Inc. (the "Company") is filing this post-effective amendment to deregister certain of the securities originally registered pursuant to the Registration Statement on Form S-8 (File No. 333-75372), filed with the Securities and Exchange Commission on December 18, 2001 by the Company (the "Registration Statement") with respect to shares of the Company's common stock, par value \$0.01 per share ("Common Stock"), thereby registered for issuance under the Company's Restated Stock Option Plan, as amended (the "Restated Stock Option Plan"). An aggregate of 2,500,000 shares of Common Stock were registered for issuance under the Restated Stock Option Plan pursuant to the Registration Statement.

On November 14, 2006, the Company's shareholders approved the Company's 2006 Employee, Director and Consultant Equity Incentive Plan (the "2006 Plan"), which replaced the Restated Stock Option Plan as of the date of approval. Following the approval of the 2006 Plan, no future awards were allowed to be made under the Restated Stock Option Plan. The maximum number of shares of Common Stock reserved and available for issuance under the 2006 Plan included 500,000 shares available for grant under the Restated Stock Option Plan as of the effective date of the 2006 Plan (the "Original Carried Forward Shares), plus the number of shares underlying any grants previously made under the Restated Stock Option Plan that are forfeited, canceled or terminated (other than by exercise) from and after November 11, 2006. The Original Carried Forward Shares included 111,245 shares registered under the Registration Statement, which were deregistered pursuant to Post-Effective Amendment No. 1 to the Registration Statement filed on November 30, 2007. An

additional 865,354 shares registered under the Registration Statement have been included in the shares reserved for issuance under the 2006 Plan as a result of forfeiture, cancellation or termination (other than by exercise) of previously-made grants under the Restated Stock Option Plan during the period between November 1, 2007 and June 30, 2014, of which 185,444 shares were deregistered pursuant to Post-Effective Amendment No. 2 to the Registration Statement filed on November 21, 2008, 356,408 shares were deregistered pursuant to Post-Effective Amendment No. 3 to the Registration Statement filed on November 23, 2010, 321,900 shares were deregistered pursuant to Post-Effective Amendment no. 4 to the Registration Statement filed on November 21, 2012, and 1,602 shares (the "Fourth Additional Carried Forward Shares") are hereby deregistered. No additional shares reserved for issuance under the Restated Stock Option Plan will become available for future issuance under the 2006 Plan as a result of the forfeiture, cancellation or termination of awards (other than by exercise) under the Restated Stock Option Plan after June 30, 2014.

Contemporaneously with the filing of this Post-Effective Amendment No. 5 to the Registration Statement, the Company is filing a Registration Statement on Form S-8 to register the Fourth Additional Carried Forward Shares for issuance pursuant to the 2006 Plan.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, 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 Post-Effective Amendment No. 5 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Waltham, the Commonwealth of Massachusetts on this 21st day of November, 2014.

IMMUNOGEN, INC.

/s/ Daniel M. Junius

Daniel M. Junius

President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment No. 5 to the Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Daniel M. Junius Daniel M. Junius	President, Chief Executive Officer and Director (Principal Executive Officer)	November 21, 2014
/s/ David B. Johnston David B. Johnston	Executive Vice President, Chief Financial Officer, and Treasurer (Principal Financial and Accounting Officer)	November 21, 2014
/s/ Stephen C. McCluski Stephen C. McCluski	Chairman of the Board of Directors	November 21, 2014
/s/ Mark Goldberg Mark Goldberg	Director	November 21, 2014
/s/ Dean J. Mitchell Dean J. Mitchell	Director	November 21, 2014
/s/ Nicole Onetto Nicole Onetto	Director	November 21, 2014
/s/Kristine Peterson Kristine Peterson	Director	November 21, 2014
/s/ Howard H. Pien Howard H. Pien	Director	November 21, 2014
/s/ Joseph J. Villafranca Joseph J. Villafranca	Director	November 21, 2014
/s/ Richard J. Wallace Richard J. Wallace	Director	November 21, 2014
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EXHIBIT INDEX

Exhibit No.	Description		
23.1*	Consent of Ernst & Young LLP		

23.1*

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in Post-Effective Amendment No. 5 to the Registration Statement (Form S-8 No. 333-75372) pertaining to the Restated Stock Option Plan of ImmunoGen, Inc. of our reports dated August 28, 2014, with respect to the consolidated financial statements and schedule of ImmunoGen, Inc. and the effectiveness of internal control over financial reporting of ImmunoGen, Inc. included in its Annual Report (Form 10-K) for the year ended June 30, 2014, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts

November 21, 2014