UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 1 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)

IMMUNOGEN, INC. 2016 EMPLOYEE, DIRECTOR AND CONSULTANT EQUITY INCENTIVE PLAN (Full Title of the Plan)

> Craig Barrows Executive Vice President, General Counsel and Secretary 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 o Accelerated filer x Non-accelerated filer o Smaller reporting company o (Do not check if a smaller reporting company) Emerging growth company o

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. 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. 333-219718), filed with the Securities and Exchange Commission on August 4, 2017 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 2016 Employee, Director and Consultant Equity Incentive Plan, as amended (the "2016 Plan"). An aggregate of 2,594,909 shares of Common Stock were registered for issuance under the 2016 Plan pursuant to the Registration Statement.

On June 20, 2018, the Company's shareholders approved the Company's 2018 Employee, Director and Consultant Equity Incentive Plan (the "2018 Plan"), which replaced the 2016 Plan. Following the approval of the 2018 Plan, no future awards were allowed to be made under the 2016 Plan after June 20, 2018. As of the close of business on June 20, 2018, 667,305 shares of Common Stock were reserved and available for issuance under future awards under the 2016 Plan. Accordingly, 667,305 shares are hereby deregistered.

| Exhibit | it Description | |
|---------|--|--|
| 23.1 | Consent of Ernst & Young LLP. | |
| 24.1 | Power of Attorney of Stuart A. Arbuckle. | |
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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 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 25th day of June, 2018.

IMMUNOGEN, INC.

By: /s/ Mark J. Enyedy

Mark J. Enyedy President and Chief Executive Officer

POWER OF ATTORNEY

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

| Signature | Title | Date |
|--|--|-------------|
| /s/ Mark J. Enyedy Mark J. Enyedy | President, Chief Executive Officer and Director (Principal Executive Officer) | June , 2018 |
| /s/ David B. Johnston David B. Johnston | Executive Vice President, Chief Financial Officer, and Treasurer (Principal Financial and Accounting Officer) | June , 2018 |
| * Stephen C. McCluski | Chairman of the Board of Directors | June , 2018 |
| * Stuart A. Arbuckle | Director | June , 2018 |
| * Mark Goldberg | Director | June , 2018 |
| * Dean J. Mitchell | Director | June , 2018 |
| * Kristine Peterson | Director | June , 2018 |
| * Richard J. Wallace | Director | June , 2018 |
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* By: /s/ David B. Johnston David B. Johnston (Attorney-in-fact)

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in this Post-Effective Amendment No. 1 to the Registration Statement (Form S-8 No. 333-219718) pertaining to the 2016 Employee, Director and Consultant Equity Incentive Plan of ImmunoGen, Inc. of our reports dated March 7, 2018, with respect to the consolidated financial statements 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 December 31, 2017, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts

June 25, 2018

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS that the undersigned constitutes and appoints Mark J. Enyedy and David B. Johnston his or her true and lawful attorneys-in-fact and agents, each acting alone, with full powers of substitution and resubstitution, for him or her or in his or her name, place and stead, in any and all capacities to sign any and all amendments or post-effective amendments to this registration statement on Form S-8 (File No. 333-219718), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, each acting alone, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, each acting alone, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

| Signature | Title | Date |
|--|----------|---------------|
| /s/ Stuart A. Arbuckle Stuart A. Arbuckle | Director | June 25, 2018 |
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