Registration No. 333-229691 Registration No. 333-237481 Registration No. 333-254354 Registration No. 333-263770 Registration No. 333-270766

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 1 TO

Form S-8 Registration No. 333-229691 Form S-8 Registration No. 333-237481 Form S-8 Registration No. 333-254354 Form S-8 Registration No. 333-263770 Form S-8 Registration No. 333-270766

UNDER THE SECURITIES ACT OF 1933

TCR² THERAPEUTICS INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

47-4152751

(I.R.S. Employer Identification Number)

100 Binney Street, Suite 710 Cambridge, Massachusetts 02142 (617) 949-5200

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

TCR² Therapeutics Inc. 2015 Stock Option and Grant Plan
TCR² Therapeutics Inc. 2018 Stock Option and Incentive Plan
TCR² Therapeutics Inc. 2018 Employee Stock Purchase Plan
TCR² Therapeutics Inc. 2022 Inducement Plan
(Full title of the plans)

William Bertrand TCR² Therapeutics Inc. 100 Binney Street, Suite 710 Cambridge, Massachusetts 02142 (617) 949-5200

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

With copies to:

Jackie Cohen Ropes & Gray LLP 1211 Avenue of the Americas New York, NY 10036-8704 (212) 596-9000 David S. Bakst, Esq. Mayer Brown LLP 1221 Avenue of the Americas New York, New York 10020 Telephone: (212) 506-2500

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a 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 Securities Exchange Act of 1934, as amended (the "Exchange Act").

Large accelerated filer	Accelerated filer	
Non-accelerated filer	Smaller reporting company	\boxtimes
	Emerging growth company	\times

DEREGISTRATION OF SECURITIES

This Post-Effective Amendment No. 1 (this "Post-Effective Amendment") relates to the following Registration Statements on Form S-8 (each, a "Registration Statement," and collectively, the "Registration Statements"), filed with the Securities and Exchange Commission (the "SEC") by TCR² Therapeutics Inc., a Delaware corporation (the "Registrant"):

- Registration Statement No. 333-229691, filed with the SEC on February 14, 2019, pertaining to the registration of 268,393 shares of the common stock of the Registrant, \$0.0001 par value per share ("Common Stock"), issuable upon the exercise of outstanding stock options awards under the 2015 Option and Grant Plan (the "2015 Plan"), 2,731,607 shares of Common Stock reserved for issuance under the 2018 Stock Option and Incentive Plan (the "2018 Plan") and 300,000 shares of Common Stock reserved for issuance under the 2018 Employee Stock Purchase Plan (the "2018 ESPP");
- Registration Statement No. 333-237481, filed with the SEC on March 30, 2020, pertaining to the registration of 1,826,423 shares of Common Stock issuable upon the exercise of outstanding stock options awards under the 2015 Plan, 959,244 shares of Common Stock reserved for issuance under the 2018 Plan and 10,000 shares of Common Stock reserved for issuance under the 2018 ESPP;
- Registration Statement No. 333-254354, filed with the SEC on March 16, 2021, pertaining to the registration of 1,340,671 shares of Common Stock reserved for issuance under the 2018 Plan;
- Registration Statement No. 333-263770, filed with the SEC on March 22, 2022, pertaining to the registration of 1,400,000 shares of Common Stock reserved for issuance pursuant to equity awards granted pursuant to the TCR² Therapeutics Inc. 2022 Inducement Plan and 1,539,859 shares of Common Stock reserved for issuance under the 2018 Plan; and
- Registration Statement No. 333-270766, filed with the SEC on March 23, 2023, pertaining to the registration of 1,568,135 shares of Common Stock reserved for issuance under the 2018 Plan and 392,034 shares of Common Stock reserved for issuance under the 2018 ESPP.

On June 1, 2023, pursuant to the terms of an Agreement and Plan of Merger dated as of March 5, 2023 (the "*Merger Agreement*", as amended by that certain Amendment No. 1 to Agreement and Plan of Merger, dated as of April 5, 2023) by and among the Registrant, Adaptimmune Therapeutics plc, a public limited company incorporated under the laws of England and Wales ("*Adaptimmune*") and CM Merger Sub, Inc., a Delaware corporation and an indirect wholly-owned subsidiary of Adaptimmune ("*Merger Sub*"), Merger Sub merged with and into the Registrant, with the Registrant surviving the merger as a wholly-owned direct subsidiary of CM Intermediate Sub II, Inc., a Delaware corporation and subsidiary of Adaptimmune (the "*Merger*").

As a result of the Merger, the Registrant has terminated any and all offerings of its securities pursuant to the Registration Statements. In accordance with an undertaking made by the Registrant in the Registration Statements to remove from registration, by means of a post-effective amendment, any of the securities registered under the Registration Statements that remain unissued at the termination of the offerings, the Registrant hereby removes from registration all securities registered but unsold under such Registration Statements, if any, as of the date hereof.

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 Post-Effective Amendment to the Registration Statements described above to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Cambridge, Commonwealth of Massachusetts on June 1, 2023.

TCR² THERAPEUTICS INC.

By: /s/ William Bertrand

Name: William Bertrand

Title: President and Corporate Secretary

No other person is required to sign this Post-Effective Amendment in reliance upon Rule 478 under the Securities Act of 1933.