As filed with the Securities and Exchange Commission on March 21, 2022

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

Post-Effective Amendment No. 1 to Form F-3 REGISTRATION STATEMENT UNDER

THE SECURITIES ACT OF 1933

Orphazyme A/S

(Exact Name of Registrant as Specified in its Charter)

Not Applicable (Translation of Registrant's Name into English)

The Kingdom of Denmark (State or other Jurisdiction of Incorporation or Organization) 2834 (Primary Standard Industrial Classification Code Number) Not Applicable (I.R.S. Employer Identification Number)

Ole Maaløes Vej 3, DK-2200 Copenhagen N Denmark Tel: +45 39178272 (Address and telephone number of Registrant's principal executive offices)

> Orphazyme US, Inc. 80 N. LaSalle Street, Suite 3475 Chicago, Illinois 60601 Tel: (773) 770-6888 (Name, address, and telephone number of agent for service)

> > Copies to:

Joshua A. Kaufman Divakar Gupta Mark Ballantyne Cooley LLP 55 Hudson Yards New York, New York 10001 +1 212 479-6000

Approximate date of commencement of proposed sale to the public: From time to time 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 registration statement pursuant to General Instruction I.C. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.C. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933.

Emerging growth company \boxtimes

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, 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. \Box

EXPLANATORY NOTE

This Post-Effective Amendment No. 1 relates to the Registration Statement on Form F-3 (File No. 333-260283) filed by Orphazyme A/S, a public limited liability company (*Aktieselskab*) organized and existing under the laws of the Kingdom of Denmark (the "Company"), which was originally declared effective by the Securities and Exchange Commission (the "SEC") on October 22, 2021 (such registration statement, the "Registration Statement"). The Registration Statement registered the offer and sale of up to \$75,000,000 of the Company's ordinary shares, including ordinary shares represented by American Depositary Shares.

In accordance with an undertaking made by the Company in the Registration Statement to remove from registration by means of a post-effective amendment any securities which remain unsold at the termination of the offering, this Post-Effective Amendment No. 1 is being filed to remove from registration all securities registered but not sold under the Registration Statement. As a result of this deregistration, no securities remain registered for sale pursuant to the Registration Statement.

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 of this Amendment No. 1 to Form F-3 and has duly caused this Registration Statement amendment to be signed on its behalf by the undersigned, thereunto duly authorized, in Copenhagen, Denmark, on March 21, 2022.

ORPHAZYME A/S

By: <u>/s/ Anders Vadsholt</u>

Anders Vadsholt Chief Executive Officer and Chief Financial Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title		Date
/s/ Anders Vadsholt Anders Vadsholt	Chief Executive Officer and Chief Financial Officer (Principal Executive Officer, Principal Financial Officer and Principal Accounting Officer)	March 21, 2022	
* Georges Gemayel	Chairman of the Board of Directors	March 21, 2022	
* Bo Jesper Hansen, Ph.D., M.D.	Deputy Chairman of the Board of Directors	March 21, 2022	
* Carrolee Barlow	Director	March 21, 2022	
* Martin Bonde, Ph.D.	Director	March 21, 2022	
* Stephanie Okey * By: /s/ Anders Vadsholt	Director	March 21, 2022	

Anders Vadsholt Attorney-in-Fact