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

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**FORM 6-K**

**Report of Foreign Private Issuer  
Pursuant to Rule 13a-16 or 15d-16  
under the Securities Exchange Act of 1934**

For the month of **July 2021**  
**Commission File Number: 001-40106**

**4D pharma plc**  
*(Translation of Registrant's name into English)*

**5th Floor, 9 Bond Court  
Leeds  
LS1 2JZ  
United Kingdom  
Tel: +44 (0) 113 895 013**

(Address of principal executive offices)

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Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F. Form 20-F  Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): \_\_\_\_\_

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): \_\_\_\_\_

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### **Announcement of Completion of Enrollment of Part A of Phase I/II Trial**

On July 6, 2021, 4D pharma plc (the “Company”) issued a press release to announce its publication of preclinical research showing single strain *Megasphaera massiliensis* improves activity of CAR-T.

The research, conducted in collaboration with the Philipps-University Marburg, Germany, and Universitätsklinikum Würzburg, Germany, and published in *Nature Communications*, demonstrates the ability of the bacterium *Megasphaera massiliensis* or its short chain fatty acid metabolite pentanoate to enhance the anti-tumor activity of cytotoxic T lymphocytes and CAR-T therapies in animal models of cancer, resulting in better tumor clearance.

A copy of the press release is attached as Exhibit 99.1 to this current report on Form 6-K and is incorporated by reference herein.

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

**4D pharma plc**

Date: July 7, 2021

*/s/ Duncan Peyton*

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Duncan Peyton  
Chief Executive Officer

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INDEX TO EXHIBITS

<b>Exhibit Number</b>	<b>Exhibit Title</b>
99.1	<a href="#">Press Release, dated July 6, 2021.</a>

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4D pharma PLC

**4D pharma Announces Publication of Preclinical Research Showing Single Strain  
Megasphaera massiliensis improves activity of CAR-T**

**Leeds, UK, July 6, 2021 – 4D pharma plc (AIM: DDDD, NASDAQ: LBPS)**, a pharmaceutical company leading the development of Live Biotherapeutic products (LBPs), a novel class of drug derived from the microbiome, today announces the publication of pre-clinical research relating to its second-generation immuno-oncology LBP MRx1299 improving the activity of CAR-T.

The research, conducted in collaboration with the Philipps-University Marburg, Germany, and Universitätsklinikum Würzburg, Germany, and published in *Nature Communications*, demonstrates the ability of the bacterium *Megasphaera massiliensis* or its short chain fatty acid (SCFA) metabolite pentanoate to enhance the anti-tumor activity of cytotoxic T lymphocytes (CTL) and CAR-T therapies in animal models of cancer, resulting in better tumor clearance.

4D pharma identified *M. massiliensis* MRx1299 using its MicroRx® platform and previously showed MRx1299 to have specific histone deacetylase (HDAC) inhibitory activity and be a rare prolific producer of pentanoate. This led to discussions with the lab of Dr. Alexander Visekruna, corresponding author on the recent publication, due to their work investigating the effects of SCFAs on immune cell subsets.

*“Our existing clinical oncology programs, such as the study of MRx0518 and Keytruda in refractory patients, have shown the important role our live biotherapeutics have to play in the fight against cancer in combination with immunotherapies. Using the MicroRx platform we have now shown we have the potential to improve the efficacies of cell therapies such as CAR-T,”* commented Dr. Imke Mulder, Research Director, 4D pharma. *“This demonstrates not only the importance of Live Biotherapeutics as a new modality poised to revolutionize the treatment of a wide range of cancers, but also the power of our MicroRx platform to continue making significant discoveries and advances in this field.”*

*“Collectively, these results suggest that low-abundant commensal bacterial species such as M. massiliensis and their selective metabolites such as pentanoate, rather than broadly distributed and abundant commensals, may be used as specific microbial biotherapeutics to enhance anti-tumor immunity and increase the efficacy of CAR-T therapy for treating tumors,”* commented Dr Alexander Visekruna of the Institute for Medical Microbiology and Hospital Hygiene at Philipps-University Marburg. *“Combined therapies including immune checkpoint inhibitors or CAR-T and simultaneous provision of low-abundant bacteria synthesizing specific metabolites as an adjunctive agent may be therapeutically useful.”*

Luu *et al.*, *Nature Communications*, ‘Microbial short-chain fatty acids modulate CD8+ T cell responses and improve adoptive immunotherapy for cancer’  
<https://www.nature.com/articles/s41467-021-24331-1>

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4D pharma PLC

### **About 4D pharma**

4D pharma is a world leader in the development of Live Biotherapeutics, a novel and emerging class of drugs, defined by the FDA as biological products that contain a live organism, such as a bacterium, that is applicable to the prevention, treatment or cure of a disease. 4D has developed a proprietary platform, MicroRx®, that rationally identifies Live Biotherapeutics based on a deep understanding of function and mechanism.

4D pharma's Live Biotherapeutic products (LBPs) are orally delivered single strains of bacteria that are naturally found in the healthy human gut. The Company has five clinical programs, namely a Phase I/II study of MRx0518 in combination with KEYTRUDA (pembrolizumab) in solid tumors, a Phase I study of MRx0518 in a neoadjuvant setting for patients with solid tumors, a Phase I study of MRx0518 in patients with pancreatic cancer, a Phase I/II study of MRx-4DP0004 in asthma, and Blautix® in Irritable Bowel Syndrome (IBS) which has completed a successful Phase II trial. Preclinical-stage programs include candidates for CNS disease such as Parkinson's disease and other neurodegenerative conditions. The Company has a research collaboration with MSD, a tradename of Merck & Co., Inc., Kenilworth, NJ, USA, to discover and develop Live Biotherapeutics for vaccines.

For more information, refer to <https://www.4dpharmapl.com>

### **Contact Information:**

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### **Forward-Looking Statements**

This announcement contains “forward-looking statements.” All statements other than statements of historical fact contained in this announcement, including without limitation statements regarding the efficacy of Live Biotherapeutics and their ability to impact CAR-T treatment outcomes, are forward-looking statements within the meaning of Section 27A of the United States Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the United States Securities Exchange Act of 1934, as amended (the “Exchange Act”). Forward-looking statements are often identified by the words “believe,” “expect,” “anticipate,” “plan,” “intend,” “foresee,” “should,” “would,” “could,” “may,” “estimate,” “outlook” and similar expressions, including the negative thereof. The absence of these words, however, does not mean that the statements are not forward-looking. These forward-looking statements are based on the Company’s current expectations, beliefs and assumptions concerning future developments and business conditions and their potential effect on the Company. While management believes that these forward-looking statements are reasonable as and when made, there can be no assurance that future developments affecting the Company will be those that it anticipates.

All of the Company’s forward-looking statements involve known and unknown risks and uncertainties, some of which are significant or beyond its control, and assumptions that could cause actual results to differ materially from the Company’s historical experience and its present expectations or projections. The foregoing factors and the other risks and uncertainties that affect the Company’s business, including the risks relating to the activity and efficacy of its Live Biotherapeutic drug candidates, and those additional risks and uncertainties described in the documents filed by the Company with the US Securities and Exchange Commission (“SEC”), should be carefully considered. The Company wishes to caution you not to place undue reliance on any forward-looking statements, which speak only as of the date hereof. The Company undertakes no obligation to publicly update or revise any of its forward-looking statements after the date they are made, whether as a result of new information, future events or otherwise, except to the extent required by law.

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