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Applied DNA Enters into Agreement with Alphazyme for Scale-Up Manufacturing of its Proprietary Linea(TM) RNAP, Progresses Towards GMP Linea(TM) IVT Production Start

- Project To Increase RNAP Manufacturing Capacity and Reduce Unit Costs of Goods -

- Project Slated for Completion Coincident with Company's Planned Initiation of GMP Manufacturing for Linea™ DNA IVT Templates -

STONY BROOK, NY and JUPITER, FL / ACCESSWIRE / March 18, 2024 / Applied DNA Sciences, Inc. (NASDAQ:APDN) (Applied DNA or the Company), a leader in PCR-based DNA technologies, and Alphazyme LLC (Alphazyme), a Maravai LifeSciences company (MRVI) and global provider of specialty enzymes used in the life sciences sector, have entered into an agreement under which Alphazyme will scale-up manufacturing of Applied DNA's proprietary Linea™ RNA polymerase ("RNAP"). Under the terms of the agreement, Alphazyme will perform manufacturing process development, enabling the scaling of Linea RNAP manufacturing from its current research scale to the commercial scale necessary to empower the Company's growing demand for the Company's Linea™ IVT platform.

The Linea IVT platform combines the Company's enzymatically produced Linea™ DNA IVT templates and its proprietary Linea RNAP to empower the manufacture of better mRNA faster. It enables higher target mRNA yields with reduced double-stranded RNA (dsRNA) contamination and simplified mRNA production workflows.

Dr. James A. Hayward, president and CEO of Applied DNA, stated, "As we progress towards the planned initiation of our GMP manufacturing capabilities for our Linea DNA IVT templates, we are seeing interest in our Linea IVT platform increase, which should drive the need for greater quantities of Linea RNAP. By leveraging our enzymatically produced Linea IVT templates to enable the sale of the higher value Linea RNAP, we believe Linea IVT presents a differentiated approach to monetizing the mRNA manufacturing value chain. The ability to manufacture Linea RNAP at a commercial scale is critical to the success of our approach. We believe Alphazyme's deep expertise in manufacturing high-quality enzymes makes them an ideal partner for this critical step in the evolution of the Linea IVT platform."

"This collaboration with Applied DNA is a testament to our shared commitment to advancing the manufacture of high-quality enzymes at scale to support the IVT manufacturing of mRNA," said Chad Decker, Vice President and General Manager of Alphazyme. "Our mission is to be the world's premier partner for custom, industrial-scale, molecular biology enzymes. We are excited about this partnership and the ability to support the manufacture of Applied DNA's Linea RNAP."

About the Linea™ DNA and Linea™ IVT Platforms

The Linea DNA platform is a completely cell-free DNA production platform founded on Applied DNA's long-standing expertise in the large-scale enzymatic production of DNA. Capable of producing DNA in quantities ranging from milligrams to grams, the Linea DNA platform can produce high-fidelity DNA constructs ranging from 100bp to 20kb in size. The DNA produced via the Linea DNA platform is free of the adventitious DNA sequences found in other sources of DNA, is rapidly scalable, and provides for simple chemical modification of DNA constructs.

The Linea IVT platform combines DNA IVT templates manufacturing via the Linea DNA platform with a proprietary Linea™ RNAP to enable mRNA and saRNA manufacturers to produce what Applied DNA believes to be better mRNA faster, with advantages over conventional mRNA production, including: 1) the elimination of plasmid DNA as a starting material; 2) the prevention or reduction of dsRNA contamination; and 3) simplified mRNA production workflows.

About Applied DNA Sciences

Applied DNA Sciences is a biotechnology company developing technologies to produce and detect deoxyribonucleic acid ("DNA"). Using the polymerase chain reaction ("PCR") to enable both the production and detection of DNA, we operate in three primary business markets: (i) the enzymatic manufacture of synthetic DNA for use in the production of nucleic acid-based therapeutics and, through our recent acquisition of Spindle Biotech, Inc. ("Spindle"), the development and sale of a proprietary RNA polymerase ("RNAP") for use in the production of mRNA therapeutics; (ii) the detection of DNA and RNA in molecular diagnostics and genetic testing services; and (iii) the manufacture and detection of DNA for industrial supply chain security services.

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About Alphazyme

Alphazyme LLC was founded by enzyme development and production experts with a track record of success and a mission to be the world's premier partner for custom molecular biology enzymes produced at industrial scale. Alphazyme collaborates with the manufacturers of nucleic acid synthesis and detection platforms to produce affordable enzymes of the highest quality that meet the requirements of the growing markets for custom DNA and RNA molecules, genomic medicines and genetic analysis. Our team values collaboration, customer success and continuous improvement.

Learn more about Alphazyme at http://www.alpha-zyme.com.

About Maravai LifeSciences

Maravai is a leading life sciences company providing critical products to enable the development of drug therapies, diagnostics, and novel vaccines and to support research on human diseases. Maravai's companies are leaders in providing products and services in the fields of nucleic acid synthesis and biologics safety testing to many of the world's leading biopharmaceutical, vaccine, diagnostics, and cell and gene therapies companies.

For more information about Maravai LifeSciences, visit www.maravai.com.

Forward-Looking Statements

The statements made by Applied DNA in this press release may be "forward-looking" in nature within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995. Forward-looking statements describe Applied DNA's and Alphazyme's future plans, projections, strategies, and expectations, and are based on assumptions and involve a number of risks and uncertainties, many of which are beyond the control of Applied DNA or Alphazyme. In particular, forward-looking statements include statements about the potential benefits of the collaboration with Alphazyme, including Alphazyme's ability to enable the scaling of Applied DNA's Linea RNAP manufacturing. Actual results could differ materially from those projected due to its history of net losses, limited financial resources, unknown future demand for its biotherapeutics products and services, the inherent risk and unknown outcome of research and development projects, the unknown amount of revenues and profits that will result from the Linea DNA™ and/or Linea™ IVT platforms, the fact that there has never been a commercial drug product utilizing PCR-produced DNA technology and/or the Linea IVT or Linea DNA platforms approved for human therapeutic use and various other factors detailed from time to time in Applied DNA's SEC reports and filings, including its Annual Report on Form 10-K filed on December 7, 2023, as amended, its Form 10-Q filed on February 8, 2024, and other reports it files with the SEC, which are available at www.sec.gov. Applied DNA undertakes no obligation to update publicly any forward-looking statements to reflect new information, events, or circumstances after the date hereof or to reflect the occurrence of unanticipated events, unless otherwise required by law.

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