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Applied DNA and Alphazyme Conclude Linea(TM) RNAP Manufacturing Scale-up Project, Deliver Substantial Improvement in Linea(TM) IVT Platform Economics

- Project Results in over 70% Reduction in Linea RNAP Manufacturing Cost to Yield a Material Improvement in Linea IVT Platform Profitability -
- Applied DNA Secures Commercial Linea RNAP Quantity Sufficient to Support Anticipated Near-Term Demand -

STONY BROOK, NY AND JUPITER, FL / ACCESSWIRE / June 20, 2024 /Applied DNA Sciences, Inc. (NASDAQ:APDN) (Applied DNA), a leader in PCR-based DNA technologies, and Alphazyme LLC (Alphazyme), a Maravai LifeSciences company (NASDAQ:MRVI) and global provider of specialty enzymes used in the life sciences sector, announced the successful conclusion of the companies' previously announced Linea™ RNAP manufacturing scale-up agreement. The joint process development project resulted in an over 70% reduction in Linea RNAP manufacturing costs and the manufacture of a quantity of Linea RNAP sufficient to support Applied DNA's anticipated near-term demand for critical starting material for mRNA production.

"We are seeing encouraging momentum in the marketplace that we believe validates our biotherapeutics strategy and positions the Company for a return to growth through our LineaRx segment," said Dr. James A. Hayward, president and CEO of Applied DNA. "Third-party evaluations of our Linea IVT platform have consistently reported on its capacity for dsRNA mitigation and reduced workflow complexity. In partnership with Alphazyme, we have now proved that our Linea RNAP, one of two core technologies comprising our Linea IVT platform, can be produced at scale and at a significantly lower unit cost to drive a material improvement in platform profitability. Armed with these improved economics, the near-term initiation of GMP manufacturing capabilities, and new IP protection, we believe we are well positioned to convert new and existing customers to GMP-grade supply agreements for mRNA critical starting materials beginning in the last quarter of calendar 2024."

"It has been a privilege to work with Applied DNA and help further the development of the mRNA therapeutic landscape. We built Alphazyme to enable our partners to bring innovative technology to the market with high-quality enzymes manufactured to meet the scalability and cost challenges they face," said Chad Decker, Vice President and General Manager of Alphazyme. "Our relationship with Applied DNA and the outcome that was delivered from this project are exemplary of this founding vision and the impact we can enable."

About the Linea™ DNA and Linea™ IVT Platforms

The Linea DNA platform is an entirely 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 sa-mRNA 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 double-stranded DNA (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, a Maravai LifeSciences company, 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 https://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 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. Actual results could differ materially from those projected due to its history of net losses, the unknown future demand for its biotherapeutics products and services, the unknown amount of revenues and profits that will result from its Linea IVT and or Linea DNA platforms, the fact that there has never been a commercial drug product utilizing PCR-produced DNA technology and/or the Linea IVT platform approved for 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, as amended, filed on December 7, 2023 and Quarterly Report on Form 10-Q filed on February 8, 2024 and May 10, 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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