TFF Pharmaceuticals Awarded Contract under DARPA's Next-Generation Personalized Protective Biosystems Program for U.S. Warfighters

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Company's Thin Film Freezing platform to be developed for use in rapidly neutralizing chemical and biological threats at vulnerable tissue barriers to increase soldier protection and decrease operational burden

AUSTIN, Texas--(BUSINESS WIRE)--Apr. 13, 2021-- TFF Pharmaceuticals, Inc. (NASDAQ: TFFP), a clinical-stage biopharmaceutical company focused on developing and commercializing innovative drug products based on its patented Thin Film Freezing (TFF) technology platform, today announced that Leidos, a leading Fortune 500 information technology, engineering and science solutions and services leader, has awarded the Company a subcontract to participate in the Personalized Protective Biosystems (PPB) Program to develop next-generation chemical and biological protection for U.S warfighters and stability operators.

The PPB research program, overseen by the Defense Advanced Research Projects Agency (DARPA), will develop an integrated system that simultaneously reduces protective equipment needs while increasing protection for the individual against existing and future chemical and biological (CB) threats. This will be achieved through lightweight materials that protect the warfighter or stability operator from exposure to CB threats, while simultaneously providing a second layer of protection, at the tissue barrier, with bio-molecular, commensal organisms, or other technologies that protect the skin, eyes, and airway from CB threats. Successful PPB technologies could change how the military and public health communities perform in unpredictable threat environments.

Under the 60-month, three-phase subcontract with Leidos, TFF Pharmaceuticals will utilize its Thin Film Freezing platform to formulate a series of countermeasures designed to neutralize chemical and biological agents at the site of vulnerable tissue barriers, including the skin, the eyes and the respiratory system. Phase I of the program will include the development and validation of methods to quantify countermeasures and the formulation of countermeasures for delivery to the various tissue. Phase II will include the scale up manufacturing of countermeasure formulations for preclinical studies, demonstration of the deliverability of countermeasure products and meeting with the FDA to determine a path to GMP production of the countermeasure formulations, nonclinical safety testing, and a pathway to human clinical testing. Phase III will include plans for scale-up manufacturing for human safety trials.

"We are very pleased that Leidos selected our Thin Film Freezing platform to help develop the next generation of chemical and biological protective technologies for our frontline warfighters and stability operators," said Glenn Mattes, President and CEO of TFF Pharmaceuticals. "The Personalized Protective Biosystems program will develop groundbreaking technology and we are proud to be able to play a role in this program that will have strategic impact to this country for years to come."

About Leidos

Leidos is a Fortune 500® information technology, engineering, and science solutions and services leader working to solve the world's toughest challenges in the defense, intelligence, homeland security, civil, and health markets. The company's 37,000 employees support vital missions for government and commercial customers. Headquartered in Reston, Va., Leidos reported annual revenues of approximately $11.09 billion for the fiscal year ended January 3, 2020. For more information, visit www.leidos.com.

About TFF Pharmaceuticals' Thin Film Freezing technology platform

TFF Pharmaceuticals' Thin Film Freezing (TFF) platform was designed to improve the solubility and absorption of poorly water-soluble drugs and is particularly suited to generate dry powder particles with properties targeted for inhalation delivery, especially to the deep lung, an area of extreme interest in respiratory medicine. The TFF process results in a "Brittle Matrix Particle," which possesses low bulk density, high surface area, and typically an amorphous morphology. allowing the particles to supersaturate when contacting the target site, such as lung tissue. Based upon laboratory experiments the aerodynamic properties of the particles are such that the portion of a drug deposited to the deep lung has the potential to reach as high as 75 percent.

About TFF Pharmaceuticals

TFF Pharmaceuticals, Inc. is a clinical-stage biopharmaceutical company focused on developing and commercializing innovative drug products based on its patented Thin Film Freezing, or TFF, technology platform. Early testing confirms that the TFF platform can significantly improve the solubility and absorption of poorly water-soluble drugs, a class of drugs that comprises approximately one-third of the major pharmaceuticals worldwide, thereby improving their pharmacokinetics. TFF Pharmaceuticals has two lead drug candidates: Voriconazole Inhalation Powder and Tac-Lac Inhalation Powder. The Company plans to add to this pipeline by collaborating with large pharmaceutical partners. The TFF Platform is protected by 42 patents issued or pending in the US and internationally. To learn more about TFF Pharmaceuticals and its product candidates, visit the Company's website at https://tffpharma.com.

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This press release contains forward-looking statements regarding TFF Pharmaceuticals, Inc., including the Company's participation in the Personalized Protective Biosystems (PPB) Program and the benefits of the Company's TFF platform. Those forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause actual results to differ materially. Among those factors are: (i) the risk that

PPB not successfully develop the proposed countermeasures utilizing the Company's TFF platform, (ii) the risk that Leidos and the Company may not be able to successfully conclude clinical testing or obtain pre-market approval of the proposed countermeasures utilizing the Company's TFF platform, (iii) no drug product incorporating the TFF platform has received FDA pre-market approval or otherwise been incorporated into a commercial drug product, and (iv) those other risks disclosed in the section "Risk Factors" included in the Company's 2020 Annual Report on Form 10-K filed with the SEC on March 10, 2021. TFF Pharmaceuticals cautions readers not to place undue reliance on any forward-looking statements. TFF Pharmaceuticals does not undertake, and specifically disclaims, any obligation to update or revise such statements to reflect new circumstances or unanticipated events as they occur, except as required by law.

"This Press Release was cleared by DARPA under Distribution Statement "A" (Approved for Public Release, Distribution Unlimited)."

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