# Dossier: GELSANA THERAPEUTICS INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,249,624.00

**Award Date:** 2024-03-07

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Gelsana Therapeutics Inc. is a clinical-stage biotechnology company focused on developing innovative, non-invasive solutions for acute lung injury (ALI) and acute respiratory distress syndrome (ARDS), conditions frequently encountered in military trauma, battlefield injuries, and infectious disease outbreaks. Their core mission is to significantly improve survival rates and reduce long-term pulmonary complications in patients suffering from these life-threatening conditions. Gelsana's unique value proposition lies in their bioresorbable, shear-thinning biomaterial, which, when instilled into the lungs, rapidly forms a protective coating that isolates injured tissues, reduces inflammation, and promotes healing by preventing further lung damage and facilitating gas exchange. This novel approach aims to address the significant unmet need for effective ALI/ARDS therapies that can be administered quickly and easily, potentially even in pre-hospital settings.

**Technology Focus:**

* Shear-Thinning Biomaterial:\*\* Gelsana's primary technology platform is a proprietary, injectable biomaterial that undergoes a shear-thinning transition upon application, allowing for easy instillation into the lung. Once inside the lungs, it rapidly self-assembles into a hydrogel, creating a protective barrier. The material is designed to biodegrade over a period of days to weeks, allowing the lung to heal naturally. Preclinical studies have demonstrated significant reductions in lung inflammation and edema, with improvements in oxygenation and survival rates in animal models of ALI/ARDS.
* Acute Lung Injury Therapy:\*\* Gelsana's lead therapeutic candidate, GLS-001, is based on this shear-thinning biomaterial and is specifically formulated for the treatment of ALI/ARDS. It is delivered as a liquid through a standard endotracheal tube and spreads throughout the lung to coat the damaged alveoli, providing a physical barrier against further injury and inflammation.

**Recent Developments & Traction:**

* FDA Clearance for Phase 1 Clinical Trial (2022):\*\* Gelsana received FDA clearance to proceed with a Phase 1 clinical trial evaluating the safety and tolerability of GLS-001 in healthy volunteers.
* SBIR Funding (Multiple Awards):\*\* Gelsana has secured multiple Small Business Innovation Research (SBIR) grants from the National Institutes of Health (NIH), providing non-dilutive funding for preclinical and early-stage clinical development of GLS-001. These grants demonstrate validation of their technology by government agencies. Specific award amounts and dates are available via NIH RePORTER database.
* Publication in Peer-Reviewed Journals:\*\* Scientific publications in journals such as \*Advanced Healthcare Materials\* have highlighted the efficacy of Gelsana's biomaterial in preclinical models of ALI/ARDS.

**Leadership & Team:**

* Dr. Kevin Tipton (CEO):\*\* Dr. Tipton has extensive experience in the biotechnology industry, including leadership roles in product development, regulatory affairs, and commercialization.
* (Note: CTO information not reliably available from public web search)\*\*

**Competitive Landscape:**

* ARDS Pharmaceutical Inc.:\*\* Develops novel therapeutics targeting specific inflammatory pathways in ARDS. Gelsana differentiates itself with its unique biomaterial-based approach that provides a physical barrier and promotes tissue regeneration, rather than solely focusing on inflammatory modulation.
* The current standard of care for ARDS primarily involves supportive therapies such as mechanical ventilation and prone positioning. Gelsana is seeking to provide an adjunct therapy to the standard of care by providing lung protection.

**Sources:**

* [https://gelsana.com/](https://gelsana.com/)
* [https://www.advancedsciencenews.com/protective-biomaterials-for-lung-injury/](https://www.advancedsciencenews.com/protective-biomaterials-for-lung-injury/)
* NIH RePORTER database (search for Gelsana Therapeutics): [https://reporter.nih.gov/](https://reporter.nih.gov/)