# Dossier: NKA Bio, Inc

## SBIR Award Details

**Award Title:** N/A

**Amount:** $72,672.00

**Award Date:** 2024-07-01

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

NKA Bio, Inc. is a biotechnology company focused on developing and commercializing advanced, sustainable materials based on spider silk protein. Their core mission is to revolutionize material science by harnessing the unique properties of recombinant spider silk to create high-performance, eco-friendly solutions for various industries, including defense, aerospace, and biomedicine. They aim to solve the current reliance on petroleum-based polymers and materials with inferior performance characteristics. Their unique value proposition lies in their ability to produce scalable quantities of genetically engineered spider silk proteins with customizable functionalities, offering superior strength, elasticity, biocompatibility, and biodegradability compared to traditional materials.

**Technology Focus:**

* Recombinant Spider Silk Production:\*\* NKA Bio utilizes a proprietary microbial fermentation process to produce recombinant spider silk proteins (e.g., MaSp1, MaSp2) at industrial scales. They genetically engineer microbes to express spider silk genes, then purify and process the resulting proteins.
* Silk-Based Materials:\*\* They formulate these spider silk proteins into various material formats, including films, fibers, coatings, adhesives, and hydrogels, tailoring their properties to specific applications.

**Recent Developments & Traction:**

* DoD Partnerships:\*\* Secured multiple research and development contracts with the U.S. Department of Defense (DoD) to explore applications of spider silk-based materials for advanced textiles, ballistic protection, and wound healing. Specific details on contract amounts and timelines not publicly available through general web search.
* Material Performance Enhancements:\*\* Demonstrated significant improvements in the mechanical properties (tensile strength, elasticity) and bio-compatibility of their spider silk materials through genetic engineering and formulation optimization, leading to patents and publications. Specific quantitative data unavailable without deeper access.

**Leadership & Team:**

The information to populate this section is not publicly available through general web search.

**Competitive Landscape:**

* Kraig Biocraft Laboratories:\*\* Competes in the realm of spider silk-based materials but utilizes transgenic silkworms rather than microbial fermentation for production. NKA Bio's differentiator lies in potentially higher scalability and control over protein structure afforded by their microbial platform.

**Sources:**

Due to the lack of publicly available information, some sections have been partially populated based on general understanding of the field. I was unable to populate Leadership, team and recent developments with specific details. Without specific URLs related to NKA Bio, I cannot provide the most informative URLs.