

Technology Snapshot

Technology Licensing Opportunity

DC Recruiter

Broad-Spectrum Immune Enhancer

Value Proposition

DC Recruiter: Broad-Spectrum Immune Enhancer from scientists at Los Alamos National Laboratory offers a differentiated approach to multi-pathogen infection prevention by using a self-assembling peptide nanofiber to recruit and activate dendritic cells (DCs), the immune system's natural sentinels. Unlike pathogen-specific vaccines or therapeutics, it is designed to help trigger an early immune response regardless of the infecting agent. Its needle-free, spray-friendly concept adds practicality.

Technology Readiness Level 3

IP Information for S-195061

U.S. Patent pending

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Technology Description

DC Recruiter addresses a persistent and highly consequential gap in infection management: the need for a rapid, broadly effective way to stimulate immune defense before the specific pathogen is known. In many exposure scenarios, the body encounters a threat before clinicians can identify the cause, and that delay can reduce the effectiveness of conventional interventions. Current vaccines, antibiotics and antivirals are generally designed to act against a known target, which limits their usefulness when exposure is unexpected, diagnosis is delayed or the pathogen is unfamiliar. That limitation creates a clear unmet need for a fast-acting, broad-spectrum approach that can be deployed early, with minimal complexity, and in settings where rapid response matters most, including outbreak situations, field environments and other high-risk conditions.

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DC Recruiter solves this problem by using a specific peptide selected to bind to dendritic cells. By leveraging a self-assembling peptide nanofiber platform, the technology is designed to help “wake up” immune surveillance early, before infection can progress unchecked. Rather than relying on a treatment matched to one virus or bacterium, it creates the potential for broad-spectrum immune support across many different infectious threats. Its ability to provide broad-spectrum immune support makes it especially compelling for situations where time is critical and conventional options may be too specific, too slow or too late to provide immediate protection. The needle-free, spray-friendly concept also adds practical value by supporting easier administration and broader accessibility, strengthening its fit for real-world use cases that demand rapid, flexible deployment.

Advantages

- Helps the body respond faster after exposure to an infection
- Works in a broad, pathogen-agnostic way rather than against just one germ
- Targets dendritic cells, which help alert and activate the immune system
- May be useful when the exact cause of infection is not yet known
- Could be helpful in outbreak, emergency, or high-risk settings
- Has the potential to be easier to use because it is designed as a needle-free spray

Market Applications

- **Infectious Disease Prevention** (early-response immune support, broad-spectrum protection)
- **Outbreak Response and Public Health** (rapid deployment, exposure mitigation)
- **Defense and National Security** (force protection, biological threat preparedness)
- **Consumer Health and Wellness** (easy-to-use immune support, potential spray format)
- **Pharmaceuticals and Biotech** (next-generation immunomodulation, platform development)
- **Emergency Preparedness** (first-response tools, high-risk exposure settings)