LyticGen Pharmaceuticals Files Patent for CRISPR-Enhanced Bacteriophage Therapeutic Targeting MRSA

Dallas biotech secures patent-pending status for VDX-10, a CRISPR-engineered phage therapeutic designed to address critical gaps in MRSA treatment.

DALLAS, TX, UNITED STATES, June 12, 2026 /EINPresswire.com/ -- LyticGen Pharmaceuticals, Inc., a development-stage biopharmaceutical company advancing precision bacteriophage therapeutics for antibiotic-resistant infections, today announced the filing of a provisional patent application covering its CRISPR-enhanced bacteriophage platform, including its lead candidate VDX-10.

The application, filed with the United States Patent and Trademark Office on June 4, 2026 (Application No. 64/082,295), covers LyticGen's proprietary two-stage phage engineering platform, including methods for systematic progenitor phage enrichment and selection, CRISPR/Cas9-mediated genomic enhancement, and the resulting genetically modified bacteriophage compositions and therapeutic methods.

VDX-10 is being developed to target Staphylococcus aureus, including methicillin-resistant S. aureus (MRSA), which causes more than 80,000 serious infections and over 10,000 deaths annually in the United States. MRSA bacteremia carries a 30-day mortality rate of 15 to 50 percent despite treatment with current standard-of-care antibiotics including vancomycin. No new antibiotic class targeting MRSA has received FDA approval in over two decades.

"This patent filing establishes the intellectual property foundation for everything we are building," said Milton Arch, CEO of LyticGen Pharmaceuticals. "Bacteriophage therapy represents

a fundamentally different approach to bacterial infection — one that operates through a mechanism entirely distinct from antibiotics and does not generate the cross-resistance patterns that have made MRSA so difficult to treat. Our CRISPR-enhancement platform is designed to address the core limitations of natural phage therapy: narrow host range, susceptibility to bacterial immune defenses, and variable clinical performance. Securing this IP is a critical step toward advancing VDX-10 into clinical development."

LyticGen's two-stage platform first systematically screens candidate bacteriophages using controlled isolation chambers to identify the progenitor with the highest lytic activity against target S. aureus strains. The selected progenitor is then enhanced using CRISPR/Cas9 genome editing to insert gene sequences that accelerate replication kinetics, expand host range across clinical S. aureus isolates, and disable bacterial anti-phage defense mechanisms. The resulting CRISPR-enhanced bacteriophage — designated VDX-10 — is a non-naturally occurring composition of matter with therapeutic properties designed to exceed those of natural phage isolates.

The patent application covers multiple claims including the phage enrichment and selection methodology, the CRISPR-mediated enhancement process, the resulting engineered bacteriophage compositions, pharmaceutical formulations, and adaptive treatment methods incorporating microbiological monitoring and re-dosing protocols.

The company is advancing VDX-10 through preclinical development, targeting an Investigational New Drug (IND) application filing with the U.S. Food and Drug Administration in 2027. LyticGen Pharmaceuticals is pursuing Qualified Infectious Disease Product (QIDP) designation and FDA Fast Track designation for VDX-10, regulatory pathways established by the Generating Antibiotic Incentives Now (GAIN) Act to accelerate the development of therapies for serious drug-resistant infections. MRSA is a named QIDP-qualifying pathogen.

The global market for MRSA treatment drugs was valued at approximately $4 billion in 2024 and is projected to grow to $5 to $7 billion by 2033, according to multiple independent market research analyses. The bacteriophage therapy market is projected to reach $1 billion by 2030, growing at a compound annual growth rate exceeding 17 percent.

The provisional patent application establishes a priority date of June 4, 2026. The non-provisional patent application deadline is June 2027.

ABOUT LYTICGEN PHARMACEUTICALS, INC.
LyticGen Pharmaceuticals, Inc. is a Dallas, Texas-based development-stage biopharmaceutical company developing CRISPR-enhanced bacteriophage therapeutics for antibiotic-resistant bacterial infections. The company's lead candidate, VDX-10, is a patent-pending, CRISPR-engineered bacteriophage platform being developed to target Staphylococcus aureus, including MRSA, for indications including MRSA bacteremia and ventilator-associated pneumonia (VAP). LyticGen's proprietary two-stage platform combines systematic progenitor phage enrichment

with CRISPR/Cas9-mediated genomic enhancement to produce engineered bacteriophages with superior therapeutic properties compared to natural phage isolates. For more information, visit www.LyticGen.com.

FORWARD-LOOKING STATEMENTS
This press release contains forward-looking statements within the meaning of applicable securities laws, including statements regarding LyticGen Pharmaceuticals' development plans, regulatory strategy, patent applications, and market projections. These statements are based on management's current expectations and assumptions and involve significant risks and uncertainties. Actual results may differ materially from those projected. LyticGen Pharmaceuticals, Inc. is a development-stage company. VDX-10 has not received FDA approval and is not available for commercial sale. Patent applications may not result in issued patents. Market projections are sourced from third-party research and are provided for context only. Nothing in this press release constitutes an offer or solicitation to sell securities.

Milton Arch
LyticGen Pharmaceuticals
email us here
