

Creative Biolabs Streamlines LBP Pipelines with End-to-End Preclinical CRO Services

Creative Biolabs, a CRO specializing in microbiome therapeutics, has announced the expansion of its comprehensive preclinical pipeline services.

SHIRLEY, NY, UNITED STATES, June 23, 2026 /EINPresswire.com/ -- The updated portfolio offers an integrated, "end-to-end" solution tailored for Live Biotherapeutic Products (LBPs) and next-generation medical probiotics, effectively bridging the technical gaps between early-stage discovery and investigational new drug (IND) applications.

Developing live microbial countermeasures presents unparalleled biological and engineering challenges. Unlike traditional small molecules, LBPs are living entities whose therapeutic efficacy relies heavily on strain viability, metabolic profiling, and precise host-microbe interactions.

Navigating Early-Stage Microbe Exploration

The foundational phase of the expanded portfolio leverages a cutting-edge [probiotics discovery and strain characterization platform](#). This service streamlines microbial isolation and screening from diverse environmental and clinical biospecimens. Utilizing whole-genome sequencing (WGS) and 16S rRNA sequencing, candidates are taxonomically classified to ensure absolute strain-level purity. Bioinformatics specialists also provide targeted primer and probe designs alongside advanced carbohydrate fermentative profiling to establish clear metabolic footprints.

Overcoming Upstream and Downstream Scaling Bottlenecks

To transition viable hits into stable candidates, Creative Biolabs has fortified its [advanced](#)



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[bioprocess scale-up and formulation development](#) solutions. This node addresses critical viability challenges across both aerobic and anaerobic culture platforms. Specialized services include cell banking, downstream purification, and high-efficiency lyophilization or spray-drying for microbial stabilization. Engineers focus heavily on delivery vehicle engineering, creating custom capsule and sachet matrices designed to shield delicate live cells from harsh gastric acid environments.

Rigorous Validation via Safety and Efficacy Mapping

The final clinical-readiness tier centers on [comprehensive preclinical safety and efficacy profiling](#). Adhering to stringent international regulatory guidelines, the CRO runs phenotypic and genotypic antimicrobial susceptibility tests to rule out transferable antibiotic resistance genes. Efficacy is systematically mapped using in vitro cell culture assets, such as monocyte activation and immune system modulation assays, alongside validated in vivo models (including mouse and zebrafish setups) to evaluate real-time pharmacokinetics and mechanisms of action.

"LBPs represent the vanguard of gastroenterology, immunology, and metabolic medicine," stated a Technical Director at Creative Biolabs. "However, the attrition rate remains high due to sudden viability loss during manufacturing or unverified immune responses. Our integrated workflow addresses these pitfalls sequentially, generating highly reproducible, data-rich packages that de-risk the entire regulatory approval process for our partners."

Technical Insights: Overcoming Probiotic Development Pitfalls

To assist developers navigating current regulatory and technical landscapes, the engineering team highlighted key strategic resolutions:

Addressing Inconsistent Batch Potency: Suboptimal fermentation conditions alter microbial phenotypes. Creative Biolabs deploys strain-specific bioprocess optimization to secure maximum biomass and long-term stability.

Mitigating Transferable Resistome Risks: Regulatory agencies mandate proof against horizontal gene transfer. The platform combines phenotypic minimum inhibitory concentration (MIC) testing with deep genomic mining to verify safety at the nucleotide level.

Biotechnology firms, pharmaceutical developers, and academic institutions seeking to accelerate their microbiome candidates can request a tailored technical evaluation. For comprehensive specifications or to consult an expert, visit the official Creative Biolabs Live Biotherapeutics portal.

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