

Biomed 2026 Company Presentations

Company name: Barcode Nanotech

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CATEGORY: Biotech/Pharma

SESSION 8.

Rewriting Biology In Vivo: The Age of Cellular Reprogramming - The Next Frontier in Genetic Medicine

Title: Barcoded AI-Guided Nanoparticles for Precision RNA Delivery

Barcode Nanotech is pioneering a transformative approach to RNA delivery by integrating advanced lipid chemistry, nanoparticle engineering, and high-throughput *in vivo* screening with machine learning. At the heart of this platform lies a dual-AI system: one model designs novel lipid structures, while the other fine-tunes nanoparticle formulations. Together, they enable precise targeting of RNA payloads to diverse cell types across multiple organs.

This approach is unique in coupling generative design with massively parallel *in vivo* readouts, yielding a differentiated value proposition: rapid, data-driven identification of tissue- and cell-specific LNPs that outperform conventional trial-and-error chemistry.

Barcode Nanotech's pipeline consists of: (i) discovery-stage LNP libraries tailored for different target tissues and cells; and (ii) partnered programs where optimized LNPs are matched to external RNA or DNA payloads. The platform is currently focused on preclinical optimization and includes validated lead LNPs for select indications and co-developed candidates with pharma and biotech partners.

The business strategy is to apply the core platform as an "LNP discovery engine" that can be deployed across many therapeutic programs. In the short term, revenue is generated through research collaborations, technology access or screening fees, and early-option licensing deals for LNP hits. Longer term, the company aims to secure downstream economics—milestones and royalties—on partnered therapeutic assets and to advance a small internal pipeline of high-value RNA medicines enabled by proprietary delivery.

Next steps include expanding the *in vivo* barcoded screening dataset, refining the AI models with larger and more diverse lipid and formulation spaces, and prioritizing a small number of flagship therapeutic partnerships for co-development.

On the R&D side, the company is deepening the mechanistic understanding of cell-type targeting. Financially, Barcode Nanotech plans to raise additional capital to fund platform expansion, formalize key partnerships, and move first partnered candidates toward IND-enabling studies.

