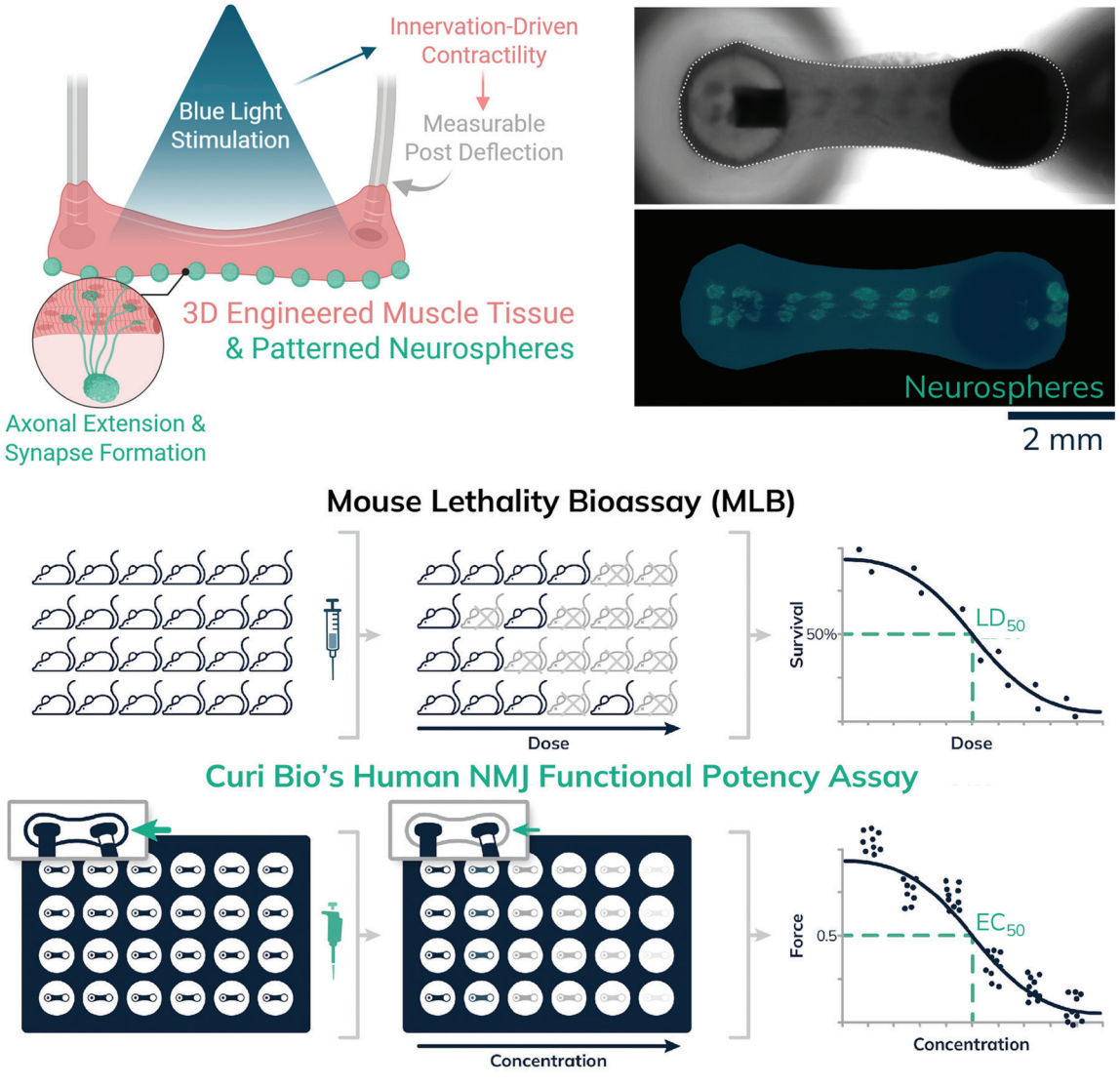
Scientific Services for BoNT Potency Testing

Enabled by 3D Human Functional Data



A Scalable 3D Human Neuromuscular Junction Model for Potency Testing of Botulinum Neurotoxins

curi bio

Replacing the Mouse Lethality Bioassay with Human Functional Biology

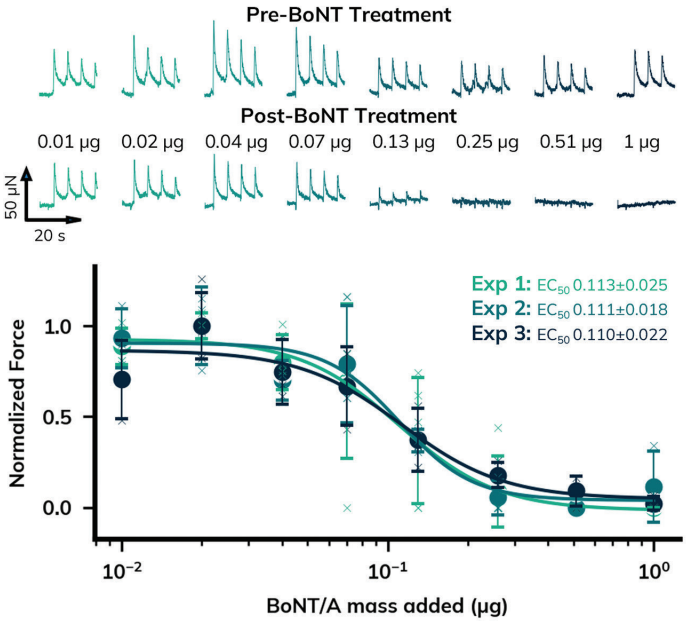
Turnkey Tissue Formation. Quantitative Reproducibility.

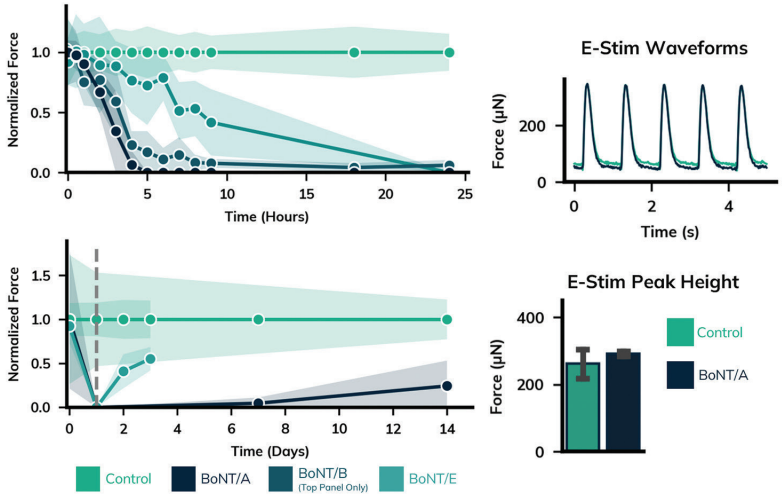
>95%
Tissue formation success rate

>92%
Optogenetic-contraction fidelity

3%
EC_{50} variability across experiments

>10%
Greater inter-study precision vs. MLB





Mechanism-Specific Pharmacology

Selective inhibition of neuronally evoked contractility confirms BoNT activity at the NMJ. Electrically stimulated muscle force remains intact, confirming no intrinsic myotoxicity.

Multi-Serotype Responsive

All tested BoNT serotypes (A, B, and E) induced complete functional blockade within 24 hours. The system resolves persistence differences between serotypes for comprehensive characterization.

Scalable & Reproducible

iPSC-derived model with direct-from-thaw muscle and neurosphere creation and straightforward in situ co-culture assembly in 24-well format, enabling streamlined model generation and high-throughput screening workflows.

Quantitative Force-Based Readout

Real-time, label-free, longitudinal measurement of contractile force using the Mantarray™ platform delivers reliable EC_{50} determination for research use only (RUO) drug substance potency testing.

Ready to implement a human-relevant NMJ model with Curi Engine™ Research Services?

Schedule a discovery call today:
sales@curibio.com

For life science research only.
Not for use in diagnostic procedures.
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