NanoLytx
500/504 E. 63rd St., NY, NY 10065

Contacts:
Edmondo Campisi PhD
K. Rashid Rumah, MD, PhD
www.nanolytx.com
ecampisi@nanolytx.com
rrumah@nanolytx.com

Industry: Pharma, Biologics

Management:
Edmondo Campisi PhD: Founder
Research Associate at Rockefeller University

K. Rashid Rumah MD, PhD: Founder
Instructor in Clinical Investigation at Rockefeller University

Scientific Advisory Board: TBD

Number of Employees: 2

Finance: TBD

IP: Goodwin Procter LLP

Legal: TBD

Business Description / Company Background:
NanoLytx is an academic-backed startup dedicated to delivering breakthrough therapies for the treatment and eradication of multiple sclerosis (MS). MS is a crippling neurological disease with an unknown cause and therefore no cure. In collaboration with researchers at Weill Cornell Medical College, our team has leveraged highly sensitive microbiome profiling to identify gut bacterium, *Clostridium perfringens*, and its potent epsilon neurotoxin (ETX) as plausible environmental triggers for MS (Ma et al. Epsilon toxin-producing *Clostridium perfringens* colonize the MS gut and epsilon toxin overcomes immune privilege. J Clin Invest. 2023 Feb 28). NanoLytx was founded to implement camelid, nanobody-based, anti-toxin technologies for the treatment of MS and for the detection ETX antigen in MS biospecimens. K. Rashid Rumah is co-inventor of an issued patent to protect against and treat multiple sclerosis (US9758573B2). Composition of matter patents for NanoLytx biologics are pending.

Market Opportunity / Unmet Need:
The global MS market currently yields $25B per annum and is projected to yield > $30B per annum by 2028 (Vantage Market Research). However, current disease modify therapies (DMTs) target the immune system rather than the environmentally trigger for MS; a known requirement for developing the disease. Per patient, MS treatments cost between $60K-$100K per year and can accumulate to > $4M over an individual patient's lifetime (Vantage Market Research). By targeting the root cause of MS, NanoLytx deliverables will likely displace the current immunomodulatory DMTs. This will be more cost effective, from a healthcare standpoint, and will improve the lives of patients by halting the disease outright.

Products/Services – Launched & Pipeline:
1st-gen: toxin-blocking, camelid nanobody-human IgG fusion proteins infused every 3 months to halt MS progression and to prevent future relapse. 2nd-gen: oral therapy (nanobody fragments) taken daily to block toxin uptake from the gut.

Commercial / Technical milestones:
Ex-vivo validation (Q4 2022, achieved). Preclinical validation (Q1 2024). Manufacturing (Q2 2025). IND filing (Q3, 2025). POC Phase 1/2 human trial (Q2 2026).

Competition / Competitive Advantages/Customer Benefits:
There are currently no competitors targeting ETX neurotoxin in the context of MS. Biogen, Novartis, and Roche hold > 55% market share of the current immunomodulatory-focused MS drug market (Vantage Market Research). NanoLytx will yield better outcomes and produce fewer side effects by targeting the root cause of MS rather than downstream immune sequelae of ETX-initiated tissue damage.

Financial Forecast:
NanoLytx is not submitting a financial forecast at this time due to the early-stage nature of the company.