

NurExone Reports Anti-Inflammatory Activity of Its Exosomes in Lab Analysis

Reducing inflammation helps create a regenerative environment in the Central Nervous System

TORONTO and HAIFA, Israel, Dec. 19, 2025 -- NurExone Biologic Inc. (TSXV: NRX) (OTCQB: NRXBF) (FSE: J90) (“**NurExone**” or the “**Company**”) today announced new laboratory data demonstrating that its proprietary exosomes can significantly reduce inflammatory activity compared to untreated cells and cells treated with a commercially available exosome product.

“Inflammation and regeneration are conflicting biological processes, and this is particularly relevant in the Central Nervous System,” said Dr. Tali Kizhner, Director of Research & Development at NurExone. “These laboratory results show that our exosomes suppress inflammation more effectively than untreated cells and commercial alternatives, even at low concentrations, with stronger effects as the doses increase. This anti-inflammatory action is a part of our ExoPTEN approach, where exosomes and therapeutic cargo work synergistically to support regenerative pathways.”

Building analytical depth and platform strength

These findings build on NurExone’s [December 12, 2025 news release](#), reporting analytical data demonstrating that its exosomes, produced from human bone marrow–derived mesenchymal stem cells (“**MSC**”), exhibit significantly higher biological activity compared with a commercially available MSC derived exosome as a control.

“We are building an analytical framework to understand and quantify the true biological complexity of exosome-based therapeutics,” said Dr. Lior Shaltiel, Chief Executive Officer of NurExone. “This will help ensure consistency from batch to batch, support quality and regulatory readiness, and clearly explain the benefits of our exosomes relative to commercial alternatives. This is essential not only for advancing our own drug programs, such as ExoPTEN, but also for establishing a reliable, scalable platform for exosome-based drug delivery.”

In the Company’s laboratory analysis, immune cells were stimulated to produce a strong inflammatory response, creating a controlled inflammatory environment. These untreated inflamed cells served as the controlled baseline. Inflammatory signaling following treatment with NurExone-produced exosomes or commercially available exosomes across a range of increasing concentrations were evaluated, and statistical significance was assessed using one-way analysis of variance (“**ANOVA**”).

The results showed that NurExone’s exosomes consistently reduced inflammatory signals relative to the untreated inflamed control and outperformed commercial exosome product at comparable concentrations. Importantly, meaningful reductions were observed even at lower concentrations, with greater reductions seen as concentrations increased, demonstrating a clear concentration-dependent biological effect.

NurExone’s exosomes reduced levels of IL-6, a key inflammatory signaling molecule, by more than 86% compared to untreated inflamed cells, including at the lowest concentration tested (see Figure 1A). This reduction remained consistent across all tested concentrations, indicating strong intrinsic anti-inflammatory activity.

For TNF-alpha, another central inflammatory signal, NurExone’s exosomes demonstrated a clear concentration-dependent response, as concentration increased, inflammatory signaling decreased further, reaching reductions of over 60% compared to the untreated inflamed control at the highest concentration tested (see Figure 1B).

In contrast, commercially available exosome product showed little to no meaningful reduction in either inflammatory signal in the concentration analysed (see Figures 1A and 1B).

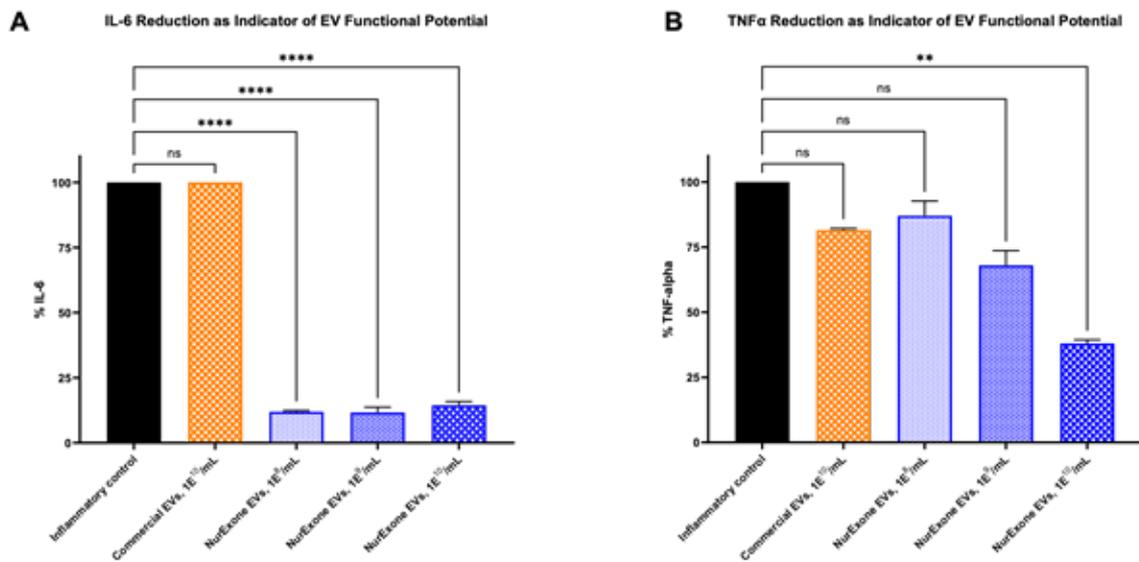


Figure 1: NurExone BM-MSC EVs reduce pro-inflammatory cytokines IL-6 and TNF- α in LPS-stimulated RAW 264.7 cells

RAW 264.7 macrophages were stimulated with LPS (Lipopolysaccharide) to induced inflammation and treated with NurExone BM-MSC extracellular vesicles (“EVs”) or commercial BM-MSC EVs at the indicated concentrations. Pro-inflammatory cytokine levels in culture supernatants were measured and are presented as a percentage relative to LPS-stimulated control (mean \pm SEM).

(A) NurExone BM-MSC EVs robustly reduced IL-6 levels by more than 86% at all concentrations tested, whereas commercial BM-MSC EVs did not lead to a decrease in IL-6.

(B) NurExone BM-MSC EVs reduced TNF- α levels in a dose-dependent manner, reaching a reduction of over 62% at the highest concentration tested, while commercial EVs did not induce a significant reduction in the same concentration.

Statistical analysis was performed using one-way ANOVA with Tukey’s multiple comparisons test. Statistical significance is indicated as: **P < 0.01 (**)**, **P < 0.0001 (****)**; ns, not significant.

About NurExone

NurExone Biologic Inc. is a TSX Venture Exchange (“**TSXV**”), OTCQB, and Frankfurt-listed biotech company focused on developing regenerative exosome-based therapies for central nervous system injuries. Its lead product, ExoPTEN, has demonstrated strong preclinical data supporting clinical potential in treating acute spinal cord and optic nerve injury, both multi-billion-dollar markets¹. Regulatory milestones, including obtaining the Orphan Drug Designation, facilitates the roadmap towards clinical trials in the U.S. and Europe. Commercially, the Company is expected to offer solutions to companies interested in quality exosomes and minimally invasive targeted delivery systems for other indications. NurExone has established Exo-Top Inc., a U.S. subsidiary, to anchor its North American activity and growth strategy.

For additional information and a brief interview, please watch [Who is NurExone?](#), visit www.nurexone.com or follow NurExone on [LinkedIn](#), [Twitter](#), [Facebook](#), or [YouTube](#).

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FORWARD-LOOKING STATEMENTS

This press release contains certain “forward-looking statements” that reflect the Company’s current expectations and projections about its future results. Wherever possible, words such as “may”, “will”, “should”, “could”, “expect”, “plan”, “intend”, “anticipate”, “believe”, “estimate”, “predict” or “potential” or the negative or other variations of these words, or similar words or

phrases, have been used to identify these forward-looking statements. Forward-looking statements in this press release include, but are not limited to, statements relating to: the Company advancing the optimization of ExoPTEN's analytical methods; the Company continuing to build an analytical framework to quantify exosome biological activity, support batch-to-batch consistency, quality and regulatory readiness, and to establish a reliable, scalable platform for exosome-based drug delivery; expectations that the Company's exosomes demonstrate superior biological activity compared with commercial alternatives; the Company preparing regulatory submissions; the belief that anti-inflammatory activity observed in laboratory analyses supports regenerative pathways and may translate into therapeutic benefits; the Company's aims to launch clinical trials; and the NurExone platform technology offering novel solutions to drug companies interested in minimally invasive targeted drug delivery for other indications.

These statements reflect management's current beliefs and are based on information currently available to management as at the date hereof. In developing the forward-looking statements in this press release, we have applied several material assumptions, including: the Company will have the ability to advance the optimization of ExoPTEN's analytical methods; the Company will establish a reliable, scalable platform for exosome-based drug delivery; the Company's laboratory observations of anti-inflammatory activity and concentration-dependent biological effects will be reproducible and will translate into clinically meaningful outcomes; the Company has the ability to prepare regulatory submissions; the Company has the ability to launch clinical trials; and the NurExone platform technology has the ability to offer novel solutions to drug companies interested in minimally invasive targeted drug delivery for other indications.

Forward-looking statements involve significant risk, uncertainties and assumptions. Many factors could cause actual results, performance or achievements to differ materially from the results discussed or implied in the forward-looking statements. These risks and uncertainties include, but are not limited to risks related to: the Company's early stage of development; lack of revenues to date; the inherent uncertainty of preclinical drug development, including the risk that product candidates may not advance to clinical trials or receive regulatory approval; the possibility that results from preclinical studies and early-stage trials may not predict later outcomes; the uncertain timing, cost, and outcome of preclinical and clinical development activities; risks related to the clinical trial process, including potential delays or failure to achieve effective trial design or positive results; the inability to obtain or maintain required regulatory approvals; limited market acceptance of the Company's products, even if approved; the Company will not establish a reliable scalable platform for exosome-based drug delivery; the Company's laboratory observations of anti-inflammatory activity and concentration-dependent biological effects will not be reproducible and will not translate into clinically meaningful outcomes; the potential emergence of competing therapies that are safer, more effective, or more affordable; rapid technological change that may impact the relevance of the Company's technologies; the Company's dependence on key personnel and strategic partners; the inability to obtain adequate financing; risks related to the Company's ability to protect its intellectual property; the possibility that the Company's technologies, including its exosome-based platforms, may not achieve their intended therapeutic impact; the inability to produce or scale exosome-based products for clinical use; limited adoption in regenerative medicine or cell therapy applications; lack of growing clinical demand in targeted indications such as spinal cord injury, optic nerve repair, or other therapeutic areas; failure to meet planned development milestones or achieve commercial breakthroughs; the Company will not advance the optimization of ExoPTEN's analytical methods; the Company will not prepare regulatory submissions; the Company will not launch clinical trials; the NurExone platform technology not offering novel solutions to drug companies interested in minimally invasive targeted drug delivery for other indications; and the risks discussed under the heading "Risk Factors" on pages 44 to 51 of the Company's Annual Information Form dated August 27, 2024, a copy of which is available under the Company's SEDAR+ profile at www.sedarplus.ca. These factors should be considered carefully, and readers should not place undue reliance on the forward-looking statements. Although the forward-looking statements contained in this press release are based upon what management believes to be reasonable assumptions, the Company cannot assure readers that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this press release, and the Company assumes no obligation to update or revise them to reflect new events or circumstances, except as required by law.

Neither TSXV nor its Regulation Services Provider (as that term is defined in the policies of the TSXV) accepts responsibility for the adequacy or accuracy of this release.

ⁱ [Spinal cord injury, Glaucoma](#)

A photo accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/7620f75b-e94c-4579-9a9e-9aa5cfc858cd>