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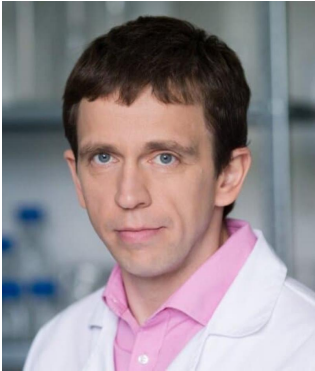
Health-Based Science Without Compromise



Froceth: An Integrated Platform for the Development and Clinical Application of ATMPs

Next-Generation Medicine: Leading the Way in Advanced Therapies and Regenerative Solutions

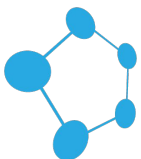




Adas Darinkas
PhD in biomedical sciences

Education:

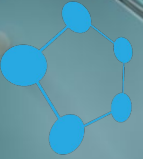
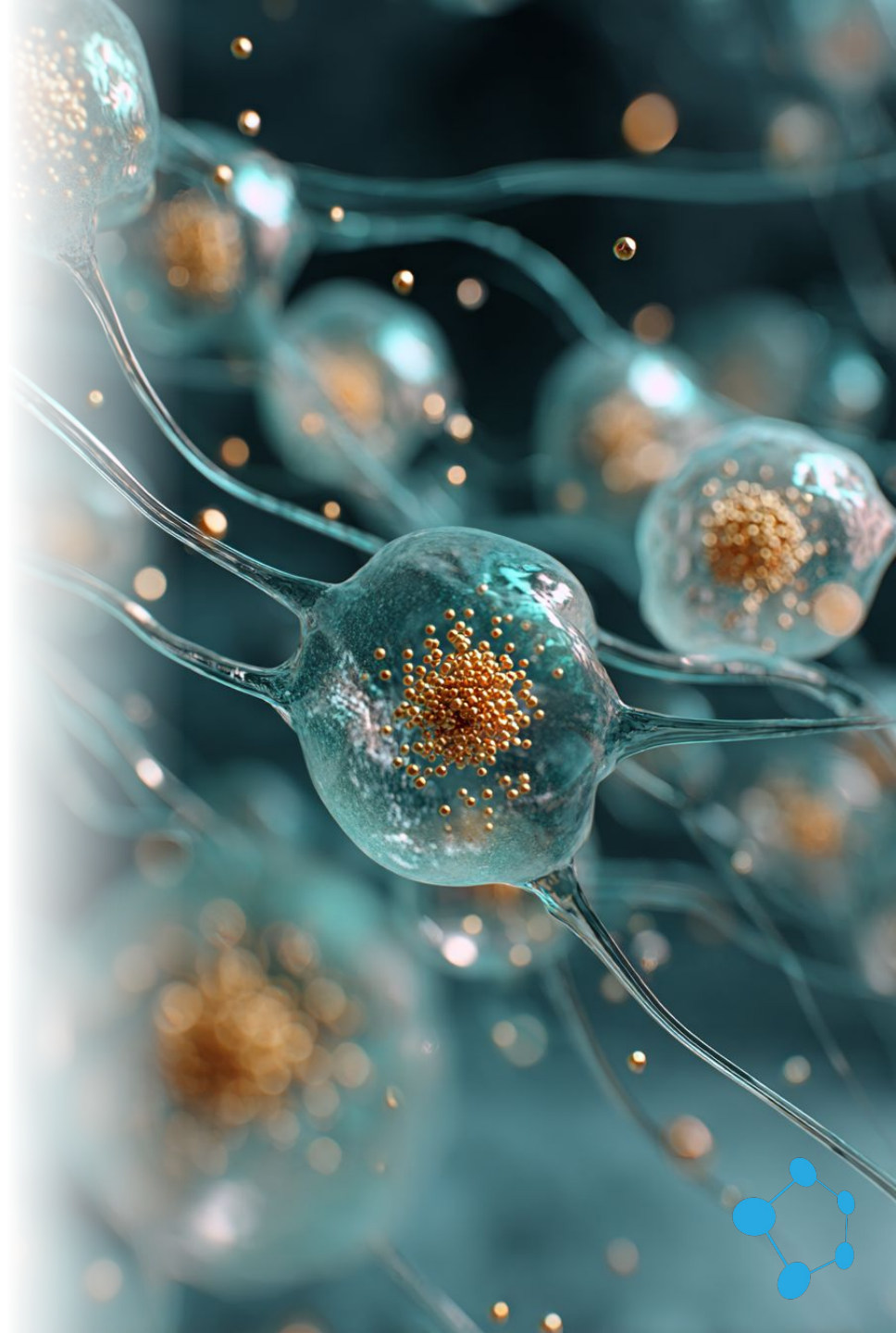
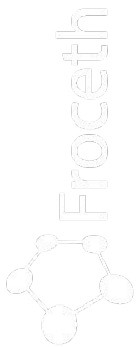
Vilnius University
Umea University
Technion scientific center (Israel)
Novosibirsk Clinical Immunology institute (Russia)
National Centre for Cancer (Lithuania)
University of Granada (Spain)
LMSU Faculty of Pharmacy (Kaunas, Lithuania)



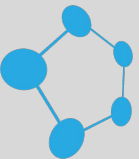
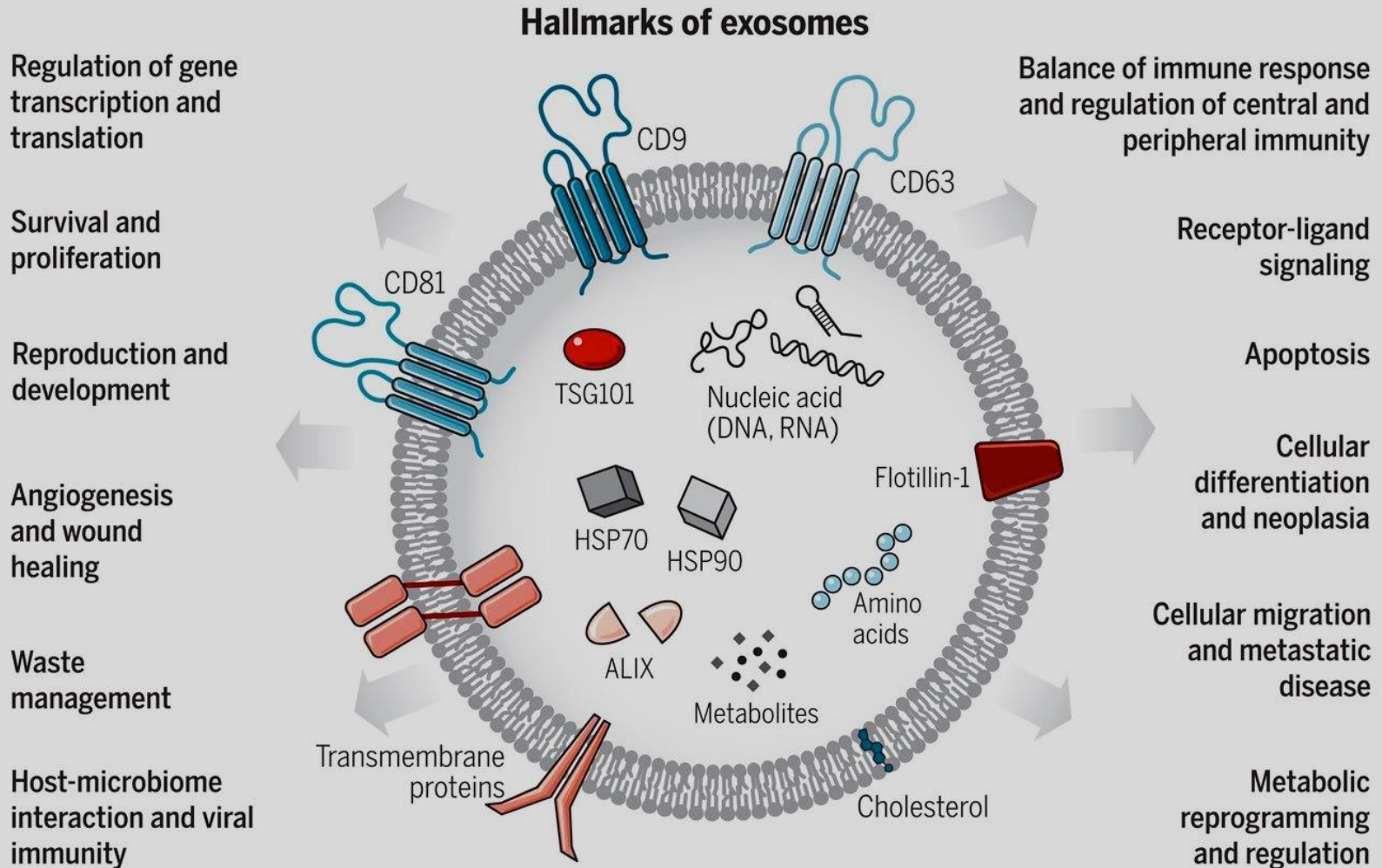
Driving Innovation in Cell Therapy and Biosimilars

Froceth: Advancing Biotherapy

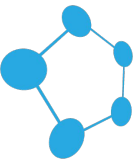
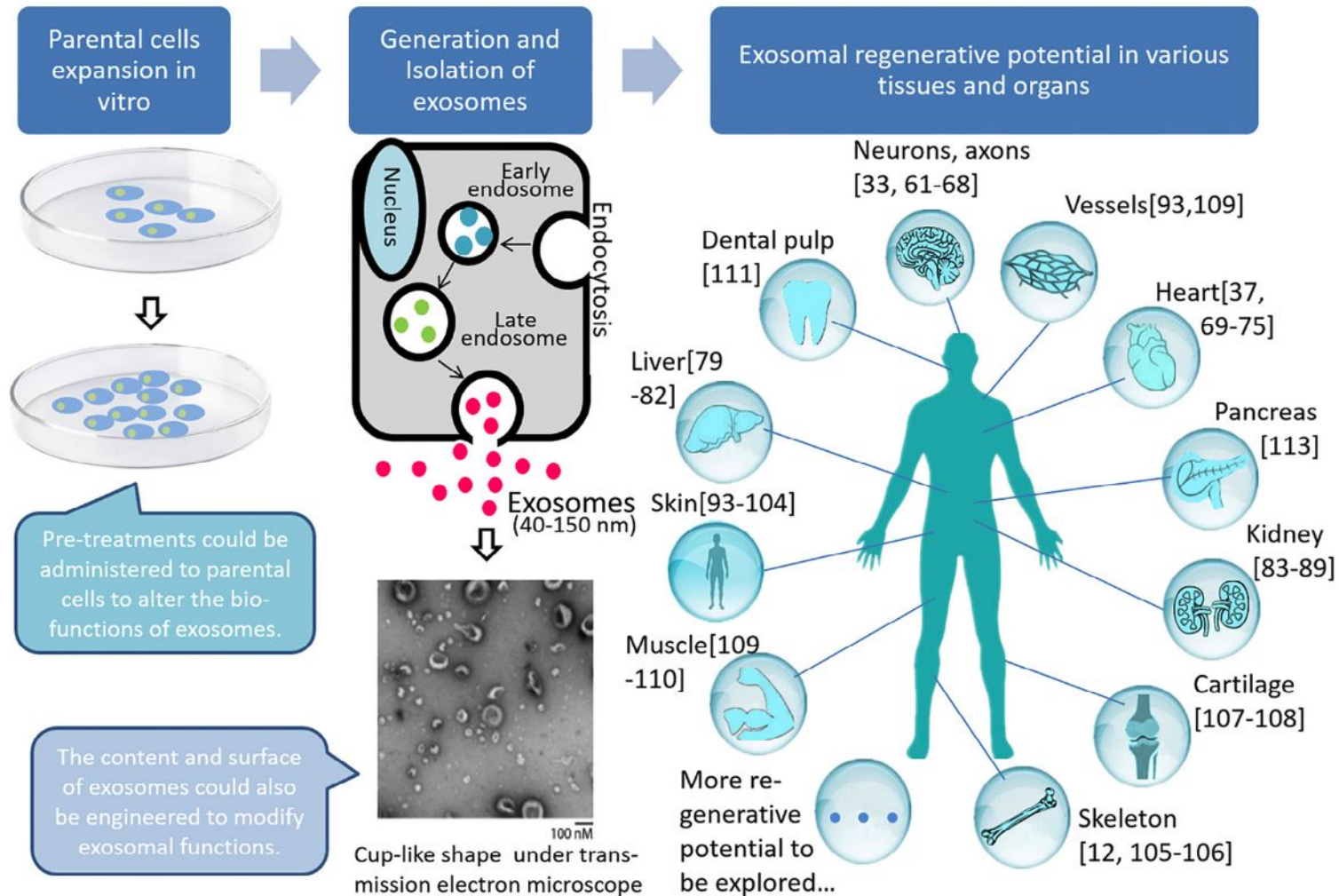
- **What We Do:** Innovating ATMPs, cell therapies, and biosimilars.
- **How We Work:** Integrating R&D and GMP production with clinical practice.
- **Our Impact:** Delivering active oncology treatments in Lithuania.
- **Our Tech:** NK/CIK, MSC & Muse Cells, Exosomes, and Cord Blood.
- **Partnerships:** Specialized CDMO services for the biotech industry.



Exosomes



Medical Applications



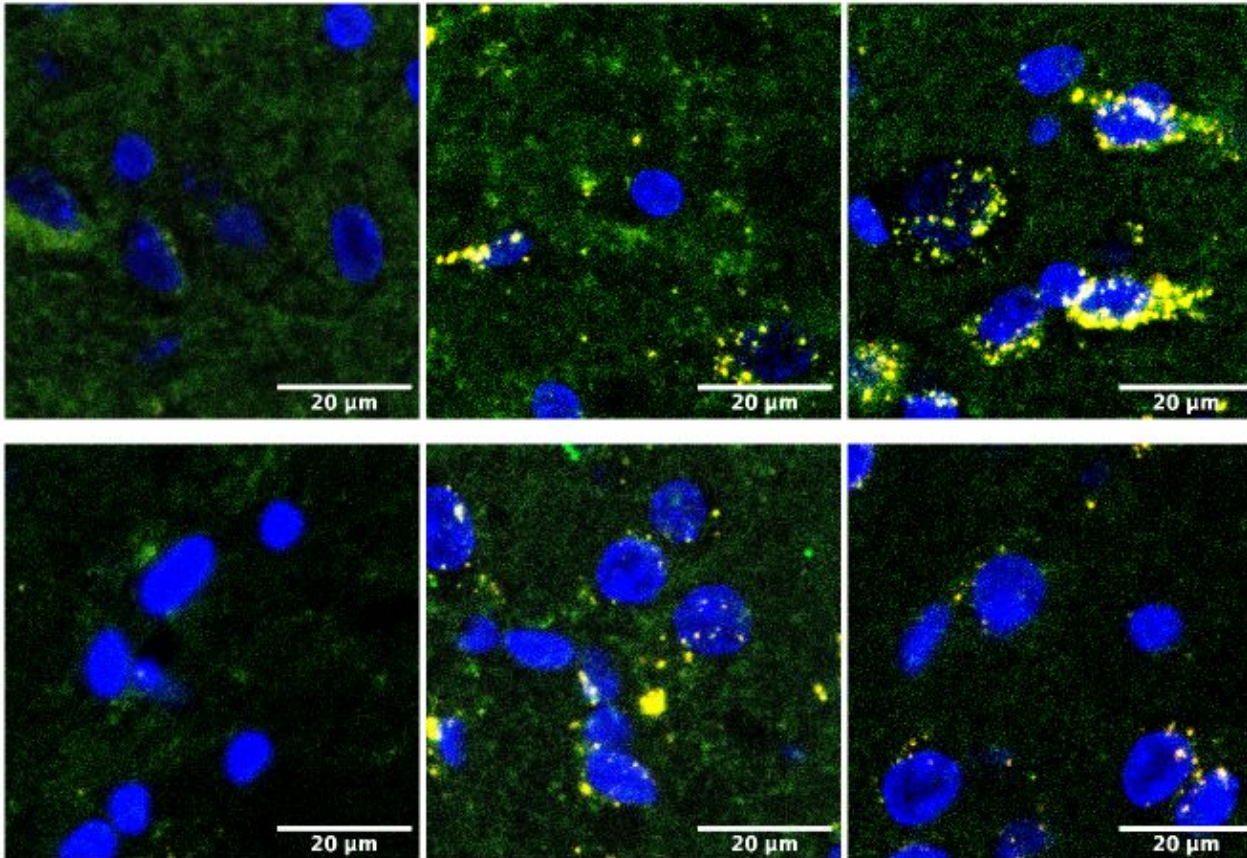
Strategic Delivery & Administration

The Versatility of Exosome Therapy Our therapeutic exosomes are engineered for high bioavailability across multiple clinical pathways, ensuring targeted delivery based on patient needs.

- **Systemic Revitalisation (IV):** Optimized for anti-aging, autoimmune regulation, and systemic inflammatory management.
- **Targeted Regeneration (IM):** Sustained delivery for chronic autoimmune support and full-body recovery.
- **Localized Orthopedics (Intra-articular):** Precision treatment for joint degeneration and chronic pain.
- **Advanced Aesthetics (Mesodermal):** Targeted solutions for skin rejuvenation, hair regrowth, and dermatological health.
- **Neurological Access (Intranasal/Nebulising):** Non-invasive delivery across the blood-brain barrier for cognitive health and neuro-inflammatory support.
- **Ocular Health:** Topical application for specialized ophthalmic care.



Targeted Neural Delivery via Intranasal Administration



Visual Layout Guide

Rows: Hypothalamus (Top) | Amygdala (Bottom)

Column 1: PBS Control Group

Column 2: Treated Group – Left Hemisphere (Ipsilateral)

Column 3: Treated Group – Right Hemisphere (Contralateral)

Study Overview

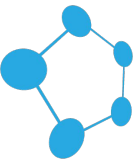
- **Model:** Rat brain tissue sections (4 hours post-administration).
- **Administration:** Unilateral intranasal instillation (Left Nostril).
- **Treatment:** CRT-GFP-loaded exosomes vs. PBS Control.

Visual Layout Guide

- **Rows:** Hypothalamus (Top) | Amygdala (Bottom)
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Fluorescence Key

- **Blue (DAPI):** Cell Nuclei
- **Red (Dil):** Exosome Membranes
- **Green (GFP):** Loaded Cargo (CRT)
- **Yellow:** Co-localization (Overlap of Exosome & Cargo)



Corneal Scarring (leukoma) Treatment

Corneal scarring (leukoma) prior to treatment with exosome eye drops.

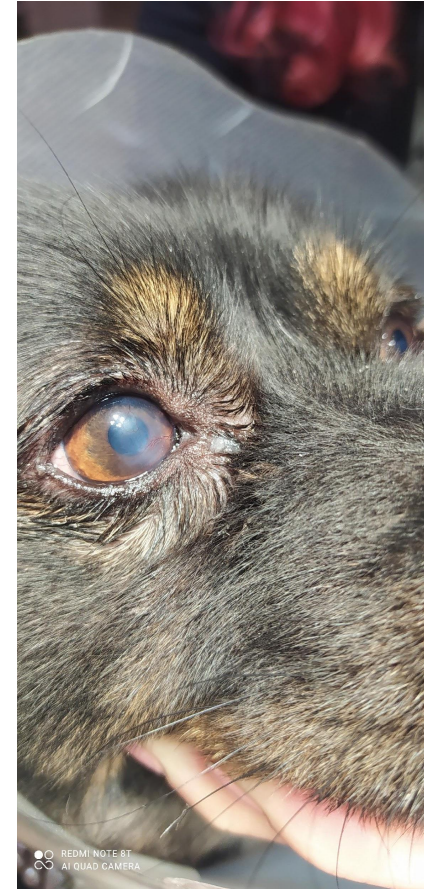
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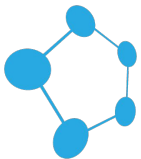


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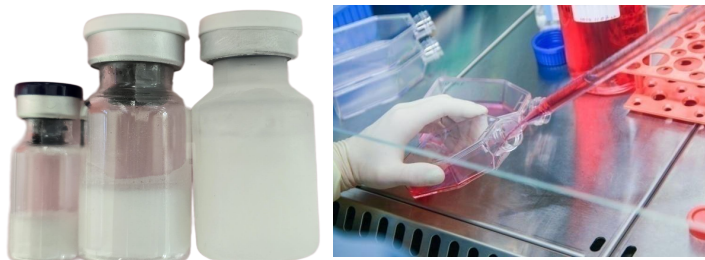
Multiple conventional veterinary treatments had been attempted without improvement. Exosomes were therefore administered as a last-resort option under compassionate use.

Noticeable improvement became visible after approximately six weeks of treatment.



Exosome Products

MANUFACTURING AND APPLICATION OF MSC



- **Lyophilized Suite:** High-potency formulations available in 100B and 500B unit concentrations.
- **Cryopreserved Liquid:** Ultra-high density 1 Trillion unit dosage for maximum therapeutic impact.
- **Bio-Hybrid Premix:** 2% Hyaluronic Acid (HA) dual-molecular weight matrix (LMW & HMW) optimized for craniofacial, orthopedic, and dental applications.

VALSTYBINĖ VAISTŲ KONTROLĖS TARNYBA
PRIE LIETUVOS RESPUBLIKOS SVEIKATOS APSAUGOS MINISTERIJOS

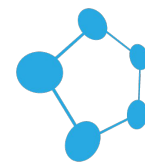
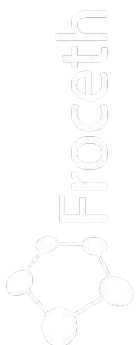
LEIDIMAS GAMINTI PAŽANGIOS TERAPIJOS VAISTINIUS PREPARATUS
KONKRETIEMS PACIENTAMS PAGAL GYDYTOJO PASKYRIMĄ Nr. 11

Leidimo turėtojas	UAB „Froceth“, Uždaroji akcinė bendrovė, 302726732
Buveinė	Turniškių g. 13-5, Vilniaus m., Vilniaus m. sav.
Gamybos vieta	Mokslininkų g. 6A, Vilniaus m., Vilniaus m. sav.
Gamybos operacijos	Mezenchiminių kamieninių ląstelių preparato gamybos operacijos
Asmens (-ų), atsakingo (-ų) už pažangios terapijos vaistinio preparato sertifikavimą, vardas, pavardė, pareigos	Jan Aleksander Krasko Laboratorijos vadovas
Gamybą pagal sutartį vykdančio juridinio asmens (sutarties vykdytojo) pavadinimas (-ai), kodas (-ai) ir veiklos vietos adresas (-ai)	---
Kokybės tyrimus pagal sutartį vykdančio juridinio asmens (sutarties vykdytojo) pavadinimas (-ai), kodas (-ai) ir veiklos vietos adresas (-ai)	Nacionalinė visuomenės sveikatos priežiūros laboratorija, 195551983, Žolyno g.36, Vilniaus m., Vilniaus m. sav. Nacionalinis vėžio institutas, 111959420, Santariškių g.1, Vilniaus m., Vilniaus m. sav. Minerva Analytix GmbH, Ladestraße 6 D-15834 Rangsdorf, Vokietija
Leidžiamų gaminti pažangios terapijos vaistinių preparatų konkretiems pacientams grupės	Somatinių ląstelių terapijos vaistiniai preparatai: Mezenchiminių kamieninių ląstelių preparatas
Leidimo išdavimo teisinis pagrindas	Valstybinės vaistų kontrolės tarnybos prie Lietuvos Respublikos sveikatos apsaugos ministerijos viršininko 2020-06-25 įsakymas Nr. (1.4)1A-793 Valstybinės vaistų kontrolės tarnybos prie Lietuvos Respublikos sveikatos apsaugos ministerijos viršininko 2020-12-15 įsakymas Nr. (1.4)1A-1709
Leidimas išduotas	2020-06-25
Leidimas galioja iki	2022-06-25

Viršininkas

A. V.

Gytis Andrušionis



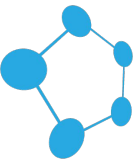
Regular MSC & MUSE MSC

Feature	Stem Cells	Muse Cells
Definition	Stem cells such as mesenchymal or embryonic stem cells	Multilineage-differentiating Stress-Enduring (Muse) cells
Discovery	Known since early 20th century	Discovered in 2010 by Dr. Mari Dezawa (Tohoku University, Japan)
Source	Bone marrow, adipose tissue, umbilical cord, etc.	Rare subpopulation within mesenchymal stem cells (bone marrow, fat, fibroblasts)
Stress Resistance	Sensitive to environmental stress	Highly stress-tolerant; survive harsh conditions
Differentiation	Lineage-restricted depending on type	Naturally pluripotent; differentiate into all three germ layers
Tumor Risk	Some types (e.g., embryonic) may form tumors	Non-tumorigenic; no tumor formation observed
Ethics	Ethical concerns for embryonic stem cells	No ethical concerns; derived from adult tissues
Immunogenicity	Possible immune rejection	Immunologically privileged; low rejection risk
Regenerative Mechanism	Paracrine effects and differentiation	Direct tissue integration and regeneration
Clinical Use	Regenerative medicine and research	Regenerative therapy, neurology, autoimmune disease, anti-aging
Clinical Safety	Depends on source and purity	Demonstrated high safety in clinical studies
Culture Stability	May lose potency during expansion	Stable and self-renewing in culture

Strategic Distinction in Stem Cell Therapy

Standard MSCs (Immunomodulatory): These cells function as "biological architects." They modulate the immune environment and polarised macrophages to trigger the body's endogenous repair mechanisms and innate regenerative potential.

Muse Cells (Pluripotent Repair): Beyond modulation, Muse cells possess the unique capacity for direct tissue replacement. They migrate to the site of injury, differentiate into the specific damaged cell types, and actively restore lost physiological function.



MSC vs Muse Cells — Clinical Use Overview

Clinical Situation	MSCs (Mesenchymal Stem Cells)	Muse Cells
Inflammatory diseases	Strong immunomodulation (e.g., autoimmune diseases, cytokine storm, graft-versus-host disease)	Moderate immunomodulation, supportive
Orthopedics & joints	Cartilage repair, osteoarthritis, tendon/ligament injuries	Support regeneration, but usually secondary role
Acute injury (trauma, burns)	Reduce inflammation, accelerate healing via paracrine signaling	Direct tissue integration and repair
Neurological diseases	Neuroprotection and anti-inflammatory effects	Differentiation into neural cells and integration into damaged tissue
Organ regeneration (heart, liver, kidney)	Mainly paracrine support and anti-inflammatory effects	Direct differentiation and structural repair
Chronic degenerative diseases	Slows degeneration through trophic support	Potential structural regeneration of damaged tissue
Systemic regenerative therapy / anti-aging	Support immune balance and tissue environment	Replace damaged cells and promote tissue renewal

Practical Clinical Message

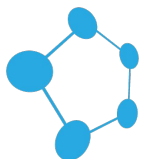
MSCs: Best for **immune modulation and inflammation control**.

Muse cells: Best for **true tissue regeneration and cell replacement**.

Simple rule:

MSC = control inflammation

Muse = rebuild tissue

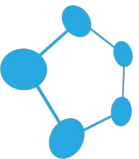
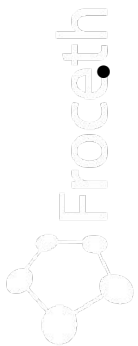


Cell Products

MANUFACTURING AND APPLICATION OF MSC



- **Low-Passage Integrity:** We exclusively utilise low-passage MSCs to ensure maximum therapeutic potency, genomic stability, and superior secretome secretion.
- **Precision Scalability:** Flexible, on-demand dosage protocols tailored to clinical requirements, ranging from **5M to 100M** cells per dose.
- **Rapid Deployment:** An industry-leading production timeline, transitioning from culture to clinical readiness within **4 weeks**.





Thank you for your attention!

