



Exosomes 10%

About

Exosomes are nano-sized vesicles released by cells that carry proteins, RNA, and growth factors involved in cell signaling and repair. In regenerative medicine, stem cell-derived exosomes are being studied for their ability to support healing, reduce inflammation, and promote tissue regeneration without the use of whole cells.

*These products are for research use only and are not intended for human consumption, medical use, therapeutic use, or diagnostic purposes. They are not to be used in foods, drugs, cosmetics, dietary supplements, or any products intended for humans or animals. Peptides are not sterile, have not been tested for safety or efficacy in humans, and must not be injected, ingested, inhaled, applied to the skin, or administered in any form. No product sold is intended to treat, cure, mitigate, or prevent any disease.

What's Included

- One vial, concentrations: 10% in 10mL
- One vial will last 6 weeks

Reconstitution kit

- **This product is already reconstituted**
- Administration kit:
 - (20) 29-30G subq needles

Clinical Research Potential Benefits:

- May support wound healing and tissue regeneration
- May help modulate the immune system and reduce inflammation
- May promote neurological, cardiovascular, and autoimmune support
- May enhance anti-aging effects and cellular communication

Clinical Research Suggested Use:

- Draw up 50 units
- Administer 3 days per week (M,W,F)
- Duration: 12 months
- Reconstitute: vial comes reconstituted
- Injection type: subcutaneous injection

Reconstitution & Administration*

*Instructions start on page 2

Injection Steps

Subcutaneous Injection steps:

1 Choose & Clean the Injection Site

- Use the abdomen (3 inches from the belly button), thigh, or upper arm. Rotate sites to prevent irritation. Clean the area with an alcohol swab and let it dry.

2 Inject

- Pinch 1 to 2 inches of skin, insert the needle at a 90° angle, and slowly push the plunger down.

3 Remove the Needle & Dispose

- Pull the needle out at the same angle, apply light pressure with gauze (don't rub), and dispose of the syringe in a sharps container.

4 Monitor for Reactions

- Mild redness or soreness is normal. Seek medical help if you experience severe pain, swelling, or an allergic reaction.

Intramuscular Injection steps:

1 Choose & Clean the Injection Site

- Use the thigh (vastus lateralis), upper arm (deltoid), or glute (ventrogluteal or dorsogluteal muscle).
 - Rotate sites to prevent soreness. Clean the area with an alcohol swab and let it dry.

2 Inject

- Stretch the skin taut, hold the syringe like a dart at a 90° angle, and insert the needle quickly and smoothly. Slowly push the plunger down to inject.

3 Remove the Needle & Dispose

- Pull the needle straight out, apply light pressure with gauze (don't rub), and dispose of the syringe in a sharps container.

4 Monitor for Reactions

- Mild soreness or redness is normal. Seek medical help if you experience severe pain, swelling, or an allergic reaction.

Exosomes 10% Mechanism of Action

- **Cellular Communication and Targeted Signaling:**
 - Exosomes are nanoscale extracellular vesicles secreted by nearly all cell types that serve as natural carriers of proteins, lipids, mRNA, and microRNA. They function as key mediators of intercellular communication, transferring bioactive molecules to target cells and influencing gene expression, tissue repair, and immune modulation.
- **Enhanced Growth Factor Delivery:**
 - Exosomes protect sensitive growth factors such as FGF19, FGF21, and FGF23 from enzymatic degradation while facilitating their targeted delivery to FGFR- and Klotho-expressing tissues. This targeted transport enhances signal precision, prolongs bioavailability, and improves local regenerative outcomes.
- **Signal Amplification and Receptor Sensitization:**
 - Exosomal surface proteins and signaling cargo upregulate the expression of FGF receptors (FGFRs) and Klotho co-receptors, amplifying downstream cellular responsiveness. This receptor sensitization enhances MAPK/ERK, PI3K/Akt, and STAT signaling pathways, promoting cellular survival, repair, and metabolic activation.
- **Regenerative and Reparative Effects:**
 - Exosomes deliver molecular cues that stimulate cellular proliferation, angiogenesis, and extracellular matrix remodeling. Their regenerative influence supports wound healing, vascular growth, and tissue repair in both local and systemic applications.
- **Anti-Aging and Anti-Inflammatory Modulation:**
 - By transferring microRNAs and antioxidant enzymes, exosomes reduce oxidative stress and suppress NF-κB-mediated inflammation. These actions improve mitochondrial function, stabilize redox balance, and enhance cellular longevity.
- **Metabolic and Systemic Benefits:**
 - Exosomal signaling contributes to metabolic optimization by improving insulin sensitivity, mitochondrial energy production, and cellular nutrient signaling. These effects collectively support longevity, tissue vitality, and age-related resilience across multiple organ systems.
- **Overall Impact:**
 - Exosomes act as biological messengers that integrate regeneration, metabolic efficiency, and anti-inflammatory signaling. By amplifying growth factor pathways—particularly the FGF-Klotho axis—they promote coordinated tissue repair, improved cellular communication, and systemic rejuvenation.