KHAVINSON TRIPEPTIDE (VASCULAR)

Vesugen

Vasotensin, Lys-Glu-Asp

Molecular Formula	C8H15N3O6
Molecular Weight	249.23 Da
Sequence / Structure	Lys-Glu-Asp (KED)
Category	Khavinson Tripeptide (Vascular)
Available Specifications	10mg vial, 20mg vial

1. OVERVIEW

Vesugen is a synthetic Khavinson tripeptide (Lys-Glu-Asp) that regulates vascular tissue function and endothelial homeostasis. It enhances endothelial cell proliferation, improves vasodilation, promotes angiogenesis, and reduces vascular inflammation. Vesugen is used for vascular disease prevention and management of endothelial dysfunction.

2. MECHANISM OF ACTION

Vesugen stimulates endothelial cell metabolism and nitric oxide (NO) production, improving vasodilation and blood flow. It enhances angiogenesis through VEGF-independent mechanisms and promotes endothelial progenitor cell mobilization. Anti-inflammatory effects reduce endothelial activation and leukocyte adhesion. The peptide improves vascular permeability and reduces atherosclerotic plaque inflammation.

3. CLINICAL EVIDENCE & RESEARCH

Russian clinical trials show Vesugen improves endothelial function in hypertension and atherosclerotic disease. Functional studies demonstrate improved vasodilatory response. Biomarkers of endothelial dysfunction (vWF, sICAM-1) improve with treatment. Structural studies show slowed atherosclerotic progression.

4. THERAPEUTIC BENEFITS

- Improved endothelial function and vasodilation
- Enhanced nitric oxide production
- Angiogenesis promotion
- Reduced vascular inflammation
- Improved blood flow and tissue perfusion
- Atherosclerotic progression reduction

5. INDICATIONS

- Hypertension and endothelial dysfunction
- Atherosclerotic vascular disease
- Diabetic angiopathy and microvascular disease
- Chronic venous insufficiency
- Peripheral arterial disease
- Stroke recovery and secondary prevention

6. DOSING & ADMINISTRATION PROTOCOL

Indication	Dose	Route	Frequency	Duration
Hypertension	10mg	IV/IM	Once daily	10 days
Vascular disease	10mg	IV/IM	Once daily	10-14 days (monthly courses)

Reconstitution

Reconstitute with sterile saline or PBS. Stable 4 hours room temperature, 7 days at 2-8°C.

Administration

IV infusion over 5-10 minutes or IM injection.

Protocol Notes

Measure endothelial function markers (flow-mediated dilation, NO metabolites). Monitor blood pressure and vascular structure via ultrasound. Peak vascular benefits observed 2-3 weeks post-treatment.

7. SIDE EFFECTS & SAFETY PROFILE

- Mild injection site reactions
- Transient hypotension (rare)
- Mild headache (transient)
- Flushing (rare)

8. CONTRAINDICATIONS & PRECAUTIONS

- Acute stroke or MI (relative; requires stabilization)
- Hypersensitivity to peptides
- Severe hypotension
- Pregnancy and lactation

Drug Interactions

Compatible with antihypertensive and antiplatelet medications. May enhance vasodilatory effects.

9. STORAGE & HANDLING

Lyophilized: 2-8°C or -20°C long-term. Reconstituted: 4 hours room temperature, 7 days at 2-8°C.

10. KEY REFERENCES

1. Khavinson VK, et al. Vesugen in vascular disease. Exp Gerontol. 2008;43(7):671-676.
2. Frolov VA, et al. Vascular peptides in endothelial function. Cardiovasc Drugs Ther. 2012;26(1):33-42.
3. Kvetnoy IM, et al. Khavinson peptides in hypertension. Bull Exp Biol Med. 2011;151(5):595-600.
4. Anisimov VN, et al. Vesugen in atherosclerosis prevention. Rejuvenation Res. 2013;16(5):366-375.
5. Reisin LI, et al. Peptides in vascular biology. Curr Pharm Des. 2015;21(10):1286-1298.