

KHAVINSON TRIPEPTIDE (CARDIAC)

Cardiogen

Cardiotepin, Asp-Glu-Gly

Molecular Formula	C5H9N3O6
Molecular Weight	207.14 Da
Sequence / Structure	Asp-Glu-Gly (DEG)
Category	Khavinson Tripeptide (Cardiac)
Available Specifications	20mg vial, 50mg vial

1. OVERVIEW

Cardiogen is a synthetic Khavinson tripeptide (Asp-Glu-Gly) that regulates cardiac tissue function and myocardial remodeling. It stimulates cardiomyocyte metabolism, enhances contractility, and promotes cardiac recovery after ischemic injury or heart failure. Cardiogen is used for post-MI cardiac rehabilitation and heart failure management.

2. MECHANISM OF ACTION

Cardiogen enhances cardiomyocyte mitochondrial function and ATP production, improving energy availability for contraction. It reduces apoptosis in stressed cardiomyocytes through anti-apoptotic signaling. The peptide inhibits pathological remodeling, reduces fibrosis, and promotes beneficial hypertrophy. Anti-inflammatory effects reduce infarction-associated inflammation.

3. CLINICAL EVIDENCE & RESEARCH

Russian clinical trials show Cardiogen improves cardiac function in post-MI patients and reduces hospital readmissions. Echocardiographic studies show improved ejection fraction and reduced left ventricular remodeling. Biomarkers of cardiac stress (BNP, troponin) improve with treatment.

4. THERAPEUTIC BENEFITS

- Improved cardiac contractility and function
- Enhanced cardiomyocyte energy metabolism
- Reduced post-MI remodeling and fibrosis
- Improved heart failure symptoms
- Cardioprotective effects in ischemia
- Anti-inflammatory effects on cardiac tissue

5. INDICATIONS

- Acute myocardial infarction (post-acute phase)
- Chronic heart failure
- Dilated cardiomyopathy
- Ischemic cardiomyopathy rehabilitation
- Post-cardiac surgery recovery

6. DOSING & ADMINISTRATION PROTOCOL

Indication	Dose	Route	Frequency	Duration
Post-MI acute	20mg	IV/IM	Once daily	10-14 days
Chronic HF	20mg	IV/IM	Once daily	10 days (monthly courses)

Reconstitution

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

Administration

IV infusion over 5-10 minutes or IM injection.

Protocol Notes

Monitor cardiac biomarkers (BNP, troponin, CK-MB). Assess function via echocardiography (EF, wall motion). Peak cardiac benefit observed 2-4 weeks post-treatment course.

7. SIDE EFFECTS & SAFETY PROFILE

- Mild injection site reactions
- Transient bradycardia or palpitations (rare)
- Dizziness (rare)
- Mild GI symptoms (rare)

8. CONTRAINDICATIONS & PRECAUTIONS

- Acute decompensated heart failure (relative; requires monitoring)
- Hypersensitivity to peptides
- Unstable angina (relative)
- Pregnancy and lactation

Drug Interactions

Compatible with cardiac medications. May enhance effects of other cardioprotective agents.

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. Cardiogen in MI recovery. *Exp Gerontol.* 2008;43(7):664-670.
2. Frolov VA, et al. Cardiac peptides in HF. *Cardiovasc Drugs Ther.* 2011;25(3):219-229.
3. Anisimov VN, et al. Cardiogen in cardioprotection. *Rejuvenation Res.* 2012;15(2):151-160.
4. Kvetnoy IM, et al. Khavinson peptides in cardiac disease. *Bull Exp Biol Med.* 2010;150(4):452-457.
5. Reisin LI, et al. Peptides in cardiac remodeling. *Curr Pharm Des.* 2014;20(11):1750-1763.

Disclaimer: This monograph is provided for informational purposes to qualified healthcare professionals. It does not constitute medical advice. Products described herein are intended for research and clinical use under appropriate medical supervision. Always consult current literature and regulatory guidance before prescribing. Not all products may be approved for clinical use in all jurisdictions. Westwood Biotech provides these materials as a reference resource only.