

**BACKGROUND:**

Growth differentiation factor 11 (GDF-11), also known as bone morphogenic protein 11 (BMP-11), is a regulator of cell growth and differentiation during muscular and neural development. GDF-11 binds the transforming growth factor-beta receptors ALK4, ALK5, and ALK7 to activate SMAD signaling. In adults, exogenous GDF-11 promotes cardiomyocyte regeneration to reverse age-related cardiac hypertrophy.

Recombinant human Growth differentiation factor 11 is a non-glycosylated protein monomer, containing 109/218 amino acids and having a molecular mass of 12.5/24.9 kDa.

**Cat. No.:**  
RP1057AF

**Alternate Names:**  
BMP-11

**AA Sequence:**

NLGLDCDEHS	SESRCRYPL	TVDFEAFGWD
WIIAPKRYKA	NYCSGQCEYM	FMQKYPHTHL
VQQANPRGSA	GPCCTPTKMS	PINMLYFNDK
QQIYVKIPG	MVVDRCGCS	

**TECHNICAL INFO**

**Source:**  
*E. coli*

**Physical Appearance:**  
Sterile Filtered white lyophilized (freeze-dried) powder.

**Formulation:**  
0.1% Trifluoroacetic Acid (TFA)

**Stability:**  
Lyophilized product is very stable at -20°C. Reconstituted material should be aliquoted and frozen at -20°C. It is recommended that a carrier protein (0.1% HSA or BSA) is added for long term storage.

**Reconstitution:**  
Centrifuge vial before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product at 0.1 mg/ml in sterile 10 mM HCl, which can be further diluted into other aqueous solutions.

**Protein Content and Purity determined by:**

- UV spectroscopy at 280 nm.
- RP-HPLC calibrated against a known standard.
- Quantitation against a known standard via reducing and non-reducing SDS-PAGE gels.

**Endotoxin Level:**  
Endotoxin level, as measured by LAL analysis, is <0.01ng/ug or <0.1EU/ug.

**Animal Component-Free**  
This product is produced with no animal derived raw products. All processing and handling employs animal free equipment and animal free protocols.

