

Recombinant Mouse GDF11/BMP-11 protein (His tag)



Catalog Number: PDEM100045

Note: Centrifuge before opening to ensure complete recovery of vial contents.

Description

Synonyms	Growth/differentiation factor 11;GDF-11;Bone morphogenetic protein 11;BMP-11
Species	Mouse
Expression Host	E.coli
Sequence	Thr 136-Asn 384
Accession	Q9Z1W4
Calculated Molecular Weight	27.3 kDa
Observed molecular weight	35 kDa
Tag	N-His

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	Please contact us for more information.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Background

Growth Differentiation Factor 11 (GDF-11), also known as BMP-11, is a member of the TGF-beta superfamily and is highly related to GDF-8. GDF-11 encodes a 407 amino acid (aa) prepropeptide which contains a signal sequence for secretion and an RXXR proteolytic processing site to yield a 109 aa residue carboxy-terminal mature protein. Mature GDF-11 contains the canonical 7-cysteine motif common to other TGF-beta superfamily members, however, like the TGF-beta s, Activins and GDF-8, GDF-11 also contains one extra pair of cysteine residues. At the amino acid sequence level, mature human, mouse, rat and chicken GDF-11 are 99-100% identical. As detected by in situ hybridization, GDF-11 is expressed in diverse regions of the mouse embryo: tailbud, somitic precursors, limbs, mandibular and branchial arches, dorsal neural tube, odontoblasts, nasal epithelium, and particular regions of the brain. Targeted deletion of GDF-11, in mice, results in a spectrum of abnormalities including palatal malformation, vertebral defects, elongated trunks with a reduced or absent tail, missing or malformed kidneys, and an increased number of neurons in the olfactory epithelium. GDF-11 signals through the Activin type II receptors and induces phosphorylation of Smad2 to mediate axial patterning. Systemic GDF-11 levels decline with age and administration of higher levels of GDF-11 can reverse age-related cardiac hypertrophy. In addition, systemic administration of recombinant GDF-11 protein restores genomic integrity and health of muscle stem cells, neurovasculature and enhances neurogenesis.

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