

Cytokines

Human Recombinant GDF-11



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Growth differentiation factor 11

Catalog # 78110 20 µg
78110.1 100 µg

Product Description

Growth differentiation factor 11 (GDF-11) is a member of transforming growth factor beta (TGF- β) family. It binds to the TGF- β receptors ALK4, ALK5, and ALK7 and activates the SMAD signaling pathway (Ho et al.). GDF-11 regulates the development of the olfactory system, retina, and pancreas, as well as anterior/posterior patterning of the axial skeleton (Lee & Lee). GDF-11 is an endocrine factor expressed in skeletal muscle, brain, and dental pulp (Kondás et al.). Studies in mice showed that GDF-11 regulates muscle and cardiac aging, and stimulates neurogenesis by remodeling blood vessels (Katsimpardi et al.; Loffredo et al.; Sinha et al.).

Product Information

Alternative Names: BMP-11, Bone morphogenic protein 11, Growth differentiation factor 11
Accession Number: O95390
Amino Acid Sequence: NLGLDCDEHS SESRCCRYPL TVDFEAFGWD WIIAPKRYKA NYCSGQCEYM FMQKYPHTHL VQQANPRGSA GPCCTPTKMS PINMLYFNDK QQIYKGKIPG MVDRCGCS
Predicted Molecular Mass: 12.5 kDa monomer, 24.9 kDa dimer
Species: Human
Cross Reactivity: Mouse, Rat
Formulation: Lyophilized from a sterile filtered aqueous solution containing 0.1% trifluoroacetic acid.
Source: E. coli

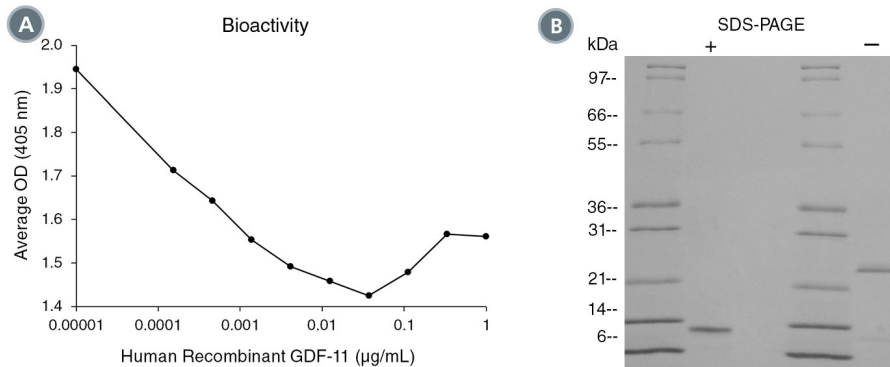
Specifications

Activity: The specific activity is $\geq 1.0 \times 10^4$ units/mg ($EC_{50} \leq 0.1$ µg/mL) as determined by alkaline phosphatase activity induced in ATDC-5 cells.
Purity: $\geq 95\%$
Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1.0 EU/µg protein.

Preparation and Storage

Storage: Store at -20°C to -80°C.
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Resuspend the product in 10 mM hydrochloric acid containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles. NOTE: If reconstituted product will be used immediately BSA is not required.

Data



(A) The biological activity of Human Recombinant GDF-11 was tested by its ability to inhibit alkaline phosphatase production in ATDC-5 cells. Inhibition of alkaline phosphatase production was measured after 67 hours using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which alkaline phosphatase activity is at 50% of maximum. The EC₅₀ in the above example is 0.00025 μg/mL.

(B) 1 μg of Human Recombinant GDF-11 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining.

Related Products

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References

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- Sinha M et al. (2014) Restoring systemic GDF11 levels reverses age-related dysfunction in mouse skeletal muscle. *Science* 344(6184): 649–52.

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