

Cytokines

Human/Mouse Recombinant GDF-11, ACF

Growth differentiation factor 11, animal component-free



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Catalog # 78189
78189.1
78189.2

20 µg
100 µg
1000 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.). This product is animal component-free.

Product Information

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

Specifications

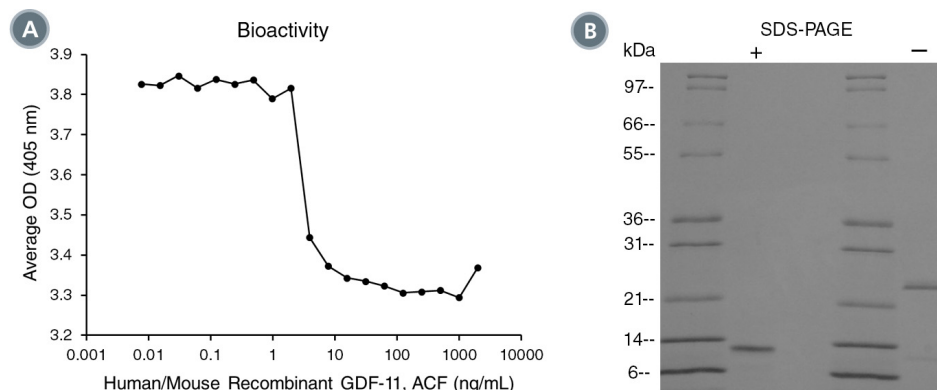
Activity: The specific activity is $\geq 1.0 \times 10^4$ units/mg ($EC_{50} \leq 100$ ng/mL) as determined by an alkaline phosphatase activity assay using ATDC-5 cells.
Purity: $\geq 95\%$
Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

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. Reconstitute the product in 10 mM hydrochloric acid to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human/Mouse Recombinant GDF-11, ACF was tested by its ability to induce alkaline phosphatase activity in ATDC-5 cells. 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 3.54 ng/mL.

(B) 1 μ g of Human/Mouse Recombinant GDF-11, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human/Mouse Recombinant GDF-11, ACF has a predicted molecular mass of 24.9 kDa (12.5 kDa per monomer).

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

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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