

GDF-8/11 (H-9): sc-393335

BACKGROUND

Growth/differentiation factors (GDFs) are members of the TGF superfamily. Members of the TGF superfamily are involved in embryonic development and adult tissue homeostasis. GDF-8, also known as myostatin, has been shown to be a negative regulator of skeletal muscle growth. GDF-11 has been shown to control anterior/posterior patterning of the axial skeleton, and also regulates kidney and pancreas organogenesis. GDF-11 controls anterior/posterior patterning of the axial skeleton, regulates organogenesis by controlling the expression of GDNF, contributes to the control of HOX gene expression and induces phosphorylation of Smad2. In addition, GDF-11 mediates signaling of Nodal during left-right patterning and development of head structures and inhibits generation of new neurons by neuronal progenitors in the olfactory epithelium.

REFERENCES

1. McPherron, A.C., et al. 1997. Regulation of skeletal muscle mass in mice by a new TGF- β superfamily member. *Nature* 387: 83-90.
2. Gad, J.M., et al. 1999. Axis development: the mouse become daschund. *Curr. Biol.* 9: R783-R786.

CHROMOSOMAL LOCATION

Genetic locus: MSTN (human) mapping to 2q32.2, GDF11 (human) mapping to 12q13.2; Mstn (mouse) mapping to 1 C1.1, Gdf11 (mouse) mapping to 10 D3.

SOURCE

GDF-8/11 (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 347-376 at the C-terminus of GDF-8 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GDF-8/11 (H-9) is available conjugated to agarose (sc-393335 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393335 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393335 PE), fluorescein (sc-393335 FITC), Alexa Fluor® 488 (sc-393335 AF488), Alexa Fluor® 546 (sc-393335 AF546), Alexa Fluor® 594 (sc-393335 AF594) or Alexa Fluor® 647 (sc-393335 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393335 AF680) or Alexa Fluor® 790 (sc-393335 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393335 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

GDF-8/11 (H-9) is recommended for detection of precursor and mature GDF-8 and GDF-11 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of GDF-8 precursor: 52 kDa.

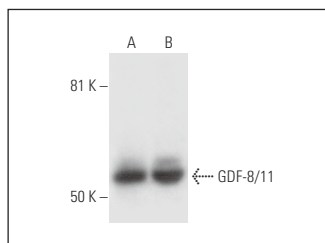
Molecular Weight of mature GDF-8: 26 kDa.

Molecular Weight of GDF-11 precursor: 50 kDa.

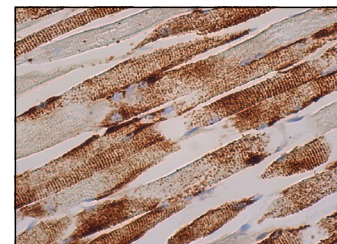
Molecular Weight of mature GDF-11: 13 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat brain extract: sc-2392.

DATA



GDF-8/11 (H-9): sc-393335. Western blot analysis of GDF-8/11 expression in rat brain (A) and mouse brain (B) tissue extracts.



GDF-8/11 (H-9): sc-393335. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Sriksuea, R. and Hirunsai, M. 2016. Effects of intramuscular administration of 1 α ,25(OH)₂D₃ during skeletal muscle regeneration on regenerative capacity, muscular fibrosis, and angiogenesis. *J. Appl. Physiol.* 120: 1381-1393.
2. Wallner, C., et al. 2019. Myostatin upregulation in patients in the chronic phase of severe burn injury leads to muscle cell catabolism. *Eur. Surg. Res.* 60: 86-96.
3. Wu, S.E., et al. 2022. Benzo[a]pyrene exposure in muscle triggers sarcopenia through aryl hydrocarbon receptor-mediated reactive oxygen species production. *Ecotoxicol. Environ. Saf.* 239: 113599.
4. Guo, M., et al. 2023. AAV-mediated nuclear localized PGC1 α delivery in muscle ameliorates sarcopenia and aging-associated metabolic dysfunctions. *Aging Cell* 22: e13961.
5. Wang, Z., et al. 2024. Differential effects of endurance exercise on musculoskeletal and hematopoietic modulation in old mice. *Aging Dis.* 15: 755-766.

RESEARCH USE

For research use only, not for use in diagnostic procedures.