

# GDF-8/11 (R-14): sc-34783

## 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 $\beta$  superfamily member. *Nature* 387: 83-90.
2. Gad, J.M., et al. 1999. Axis development: the mouse become daschund. *Curr. Biol.* 9: R783-R786.
3. McPherron, A.C., et al. 1999. Regulation of anterior/posterior patterning of the axial skeleton by growth/differentiation factor 11. *Nat. Genet.* 22: 260-264.
4. Liu, J.P., et al. 2001. Assigning the positional identity of spinal motor neurons: rostrocaudal patterning of HoxC expression by FGFs, GDF-11, and retinoids. *Neuron* 32: 997-1012.
5. Gamer, L.W., et al. 2001. Gdf11 is a negative regulator of chondrogenesis and myogenesis in the developing chick limb. *Dev. Biol.* 229: 407-420.
6. Oh, S.P., et al. 2002. Activin type IIA and IIB receptors mediate GDF-11 signaling in axial vertebral patterning. *Genes Dev.* 16: 2749-2754.
7. Esquela, A.F., et al. 2003. Regulation of metanephric kidney development by growth/differentiation factor 11. *Dev. Biol.* 257: 356-370.
8. Wu, H.H., et al. 2003. Autoregulation of neurogenesis by GDF-11. *Neuron* 37: 197-207.

## 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 (R-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GDF-8 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34783 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GDF-8/11 (R-14) is recommended for detection of precursor and mature GDF-8 and GDF-11 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MoGDF-8/11 (R-14) is also recommended for detection of precursor and mature GDF-8 and GDF-11 in additional species, including equine, canine, bovine, porcine and avian.

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: rat brain extract: sc-2392.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **GDF-8/11 (A-1): sc-398333** or **GDF-8/11 (H-9): sc-393335**, our highly recommended monoclonal alternatives to GDF-8/11 (R-14).