SANTA CRUZ BIOTECHNOLOGY, INC.

GDF-8/11 (K-18): sc-32332

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 TGFβ 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. and Lee, S.J. 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: GDF8 (human) mapping to 2q32.2, GDF11 (human) mapping to 12q13.2; Gdf8 (mouse) mapping to 1 C1.1, Gdf11 (mouse) mapping to 10 D3.

SOURCE

GDF-8/11 (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GDF-11 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32332 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GDF-8/11 (K-18) 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).

GDF-8/11 (K-18) 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, rat skeletal muscle extract: sc-364810 or mouse embryo extract: sc-364239.

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.

SELECT PRODUCT CITATIONS

1. Izmiryan, A., et al. 2010. Synemin isoforms in astroglial and neuronal cells from human central nervous system. Neurochem. Res. 35: 881-887.

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 or our catalog for detailed protocols and support products.