



GDF-1 (M-48): sc-98855

BACKGROUND

Growth/differentiation factors (GDFs) are members of the TGF β superfamily. Members of the TGF β superfamily are involved in embryonic development and adult tissue homeostasis. GDF-1 expression is almost exclusively restricted to the central nervous system, most strongly expressed in the hippocampus and cortex of the brain. The function of GDF-1 is not completely known, however, it may mediate cell differentiation events during embryonic development.

REFERENCES

1. Massague, J. 1990. The transforming growth factor- β family. *Ann. Rev. Cell. Biol.* 6: 597-641.
2. Lee, S.J. 1990. Identification of a novel member (GDF-1) of the transforming growth factor- β superfamily. *Mol. Endocrinol.* 4: 1034-1040.
3. Lee, S.J. 1991. Expression of growth/differentiation factor 1 in the nervous system: conservation of a bicistronic structure. *Proc. Natl. Acad. Sci. USA* 88: 4250-4254.
4. McPherron, A.C., Lawler, A.M. and Lee, S.J. 1997. Regulation of skeletal muscle mass in mice by a new TGF β superfamily member. *Nature* 387: 83-90.
5. Ebendal, T., Bengtsson, H. and Söderström, S. 1998. Bone morphogenetic proteins and their receptors: potential functions in the brain. *J. Neurosci. Res.* 51: 139-146.
6. Soderstrom, S. and Ebendal, T. 1999. Localized expression of BMP and GDF mRNA in the rodent brain. *J. Neurosci. Res.* 56: 482-492.
7. Rankin, C.T., Bunton, T., Lawler, A.M. and Lee, S.J. 2000. Regulation of left-right patterning in mice by growth/differentiation factor-1. *Nat. Genet.* 24: 262-265.
8. Karkera, J.D., Lee, J.S., Roessler, E., Banerjee-Basu, S., Ouspenskaia, M.V., Mez, J., Goldmuntz, E., Bowers, P., Towbin, J., Belmont, J.W., Baxevaris, A.D., Schier, A.F. and Muenke, M. 2007. Loss-of-function mutations in growth differentiation factor-1 (GDF-1) are associated with congenital heart defects in humans. *Am. J. Hum. Genet.* 81: 987-994.
9. Andersson, O., Bertolino, P. and Ibáñez, C.F. 2007. Distinct and cooperative roles of mammalian Vg1 homologs GDF-1 and GDF-3 during early embryonic development. *Dev. Biol.* 311: 500-511.

CHROMOSOMAL LOCATION

Genetic locus: *Gdf1* (mouse) mapping to 8 B3.3.

SOURCE

GDF-1 (M-48) is a rabbit polyclonal antibody raised against amino acids 223-270 mapping within an internal region of GDF-1 of mouse origin.

PRODUCT

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

APPLICATIONS

GDF-1 (M-48) is recommended for detection of GDF-1 of mouse and rat origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GDF-1 siRNA (m): sc-39765, GDF-1 shRNA Plasmid (m): sc-39765-SH and GDF-1 shRNA (m) Lentiviral Particles: sc-39765-V

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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 or our catalog for detailed protocols and support products.