

GDF-5 (N-17): sc-6901

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-1 expression is almost exclusively restricted to the central nervous system and mediates cell differentiation events during embryonic development. Neither GDF-3 (Vgr-2) nor GDF-9 contains the conserved cysteine residue which is found in most other TGF superfamily members. GDF-3 is detectable in bone marrow, spleen, thymus and adipose tissue, whereas GDF-9 has only been detected in ovary. GDF-5 (also designated CDMP-1) has been shown to induce activation of plasminogen activator, thereby inducing angiogenesis. It is predominantly expressed in long bones during fetal embryonic development and is involved in bone formation. GDF-5 mutations have been identified in mice with the mutation brachypodism (bp), a mutation which affects the length and number of bones in limbs. GDF-6 and GDF-7 are closely related to GDF-5. GDF-8 has been shown to be a negative regulator of skeletal muscle mass.

CHROMOSOMAL LOCATION

Genetic locus: GDF5 (human) mapping to 20q11.22; Gdf5 (mouse) mapping to 2 H1.

SOURCE

GDF-5 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GDF-5 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-6901 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GDF-5 (N-17) is recommended for detection of precursor and mature GDF-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

GDF-5 (N-17) is also recommended for detection of precursor and mature GDF-5 in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for GDF-5 siRNA (h): sc-39768, GDF-5 siRNA (m): sc-39769, GDF-5 shRNA Plasmid (h): sc-39768-SH, GDF-5 shRNA Plasmid (m): sc-39769-SH, GDF-5 shRNA (h) Lentiviral Particles: sc-39768-V and GDF-5 shRNA (m) Lentiviral Particles: sc-39769-V.

Molecular Weight of mature GDF-5: 15 kDa.

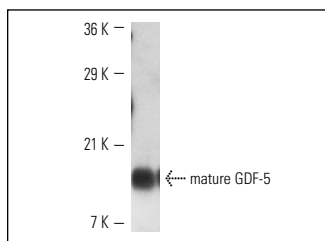
Molecular Weight of GDF-5 homodimer: 25 kDa.

Molecular Weight of GDF-5 precursor: 70 kDa.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



GDF-5 (N-17): sc-6901. Western blot analysis of mouse recombinant mature GDF-5.

SELECT PRODUCT CITATIONS

1. Katayama, R., et al. 2004. Repair of articular cartilage defects in rabbits using CDMP1 gene-transfected autologous mesenchymal cells derived from bone marrow. *Rheumatology* 43: 980-985.
2. Gortz, B., et al. 2004. Arthritis induces lymphocytic bone marrow inflammation and endosteal bone formation. *J. Bone Miner. Res.* 19: 990-998.
3. Felin, J.E., et al. 2010. Nuclear variants of bone morphogenetic proteins. *BMC Cell Biol.* 11: 20.
4. Panda, D.K., et al. 2012. Defective postnatal endochondral bone development by chondrocyte-specific targeted expression of parathyroid hormone type 2 receptor. *Am. J. Physiol. Endocrinol. Metab.* 303: E1489-E1501.

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.



Try **GDF-5 (A-10): sc-373744** or **GDF-5/6/7/16 (A-2): sc-374184**, our highly recommended monoclonal alternatives to GDF-5 (N-17).