

# GDF-3 (W-25): sc-130766

## 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.

## REFERENCES

1. Massague, J. 1990. The transforming growth factor- $\beta$  family. *Annu. Rev. Cell. Biol.* 6: 597-641.
2. 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.
3. McPherron, A.C., et al. 1993. GDF-3 and GDF-9: two new members of the transforming growth factor- $\beta$  superfamily containing a novel pattern of cysteines. *J. Biol. Chem.* 268: 3444-3449.
4. Storm, E.E., et al. 1994. Limb alterations in brachypodism mice due to mutations in a new member of the TGF $\beta$ -superfamily. *Nature* 368: 639-643.
5. Yamashita, H., et al. 1997. Growth differentiation factor-5 induces angiogenesis *in vivo*. *Exp. Cell Res.* 235: 218-226.
6. McPherron, A.C., et al. 1997. Regulation of skeletal muscle mass in mice by a new TGF $\beta$  superfamily member. *Nature* 387: 83-90.

## CHROMOSOMAL LOCATION

Genetic locus: GDF3 (human) mapping to 12p13.31; Gdf3 (mouse) mapping to 6 F1.

## SOURCE

GDF-3 (W-25) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of GDF-3 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g of IgG in PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

GDF-3 (W-25) is recommended for detection of GDF-3 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for GDF-3 siRNA (h): sc-39766, GDF-3 siRNA (m): sc-39767, GDF-3 shRNA Plasmid (h): sc-39766-SH, GDF-3 shRNA Plasmid (m): sc-39767-SH, GDF-3 shRNA (h) Lentiviral Particles: sc-39766-V and GDF-3 shRNA (m) Lentiviral Particles: sc-39767-V.

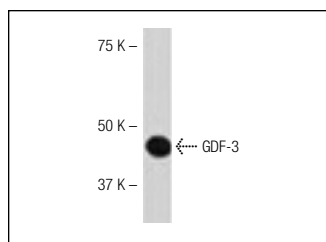
Molecular Weight of GDF-3 precursor: 42 kDa.

Molecular Weight of mature/secreted GDF-3: 14 kDa.

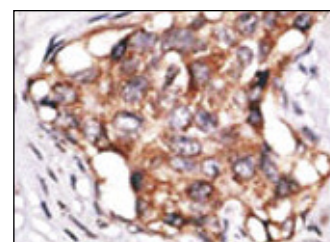
## RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



GDF-3 (W-25): sc-130766. Western blot analysis of GDF-3 expression in mouse kidney tissue extract.



GDF-3 (W-25): sc-130766. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic and membrane localization.

## 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.