SANTA CRUZ BIOTECHNOLOGY, INC.

GDF-7 (AA-9): sc-81951

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-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-β 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-β 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 TGFβ-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 TGFβ superfamily member. Nature 387: 83-90.

CHROMOSOMAL LOCATION

Genetic locus: GDF7 (human) mapping to 2p24.1; Gdf7 (mouse) mapping to 12 A1.1.

SOURCE

GDF-7 (AA-9) is a mouse monoclonal antibody raised against recombinant GDF-7 of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2b} kappa light chain in 0.5 ml of 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-7 (AA-9) is recommended for detection of GDF-7 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GDF-7 siRNA (h): sc-39772, GDF-7 siRNA (m): sc-39773, GDF-7 shRNA Plasmid (h): sc-39772-SH, GDF-7 shRNA Plasmid (m): sc-39773-SH, GDF-7 shRNA (h) Lentiviral Particles: sc-39772-V and GDF-7 shRNA (m) Lentiviral Particles: sc-39773-V.

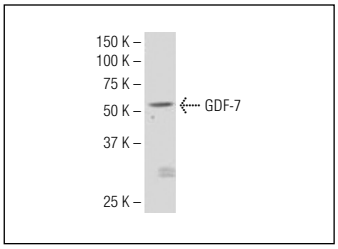
Molecular Weight of GDF-7: 15 kDa.

Positive Controls: FHs 173We cell lysate: sc-2417.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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).

DATA



GDF-7 (AA-9): sc-81951. Western blot analysis of GDF-7 expression in FHs 173We whole cell lysate.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.