

GDF-5/6/7/16 (A-2): sc-374184

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 TGF β -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- β superfamily member. *Nature* 387: 83-90.

SOURCE

GDF-5/6/7/16 (A-2) is a mouse monoclonal antibody raised against amino acids 382-501 mapping at the C-terminus of GDF-5 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GDF-5/6/7/16 (A-2) is available conjugated to agarose (sc-374184 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374184 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374184 PE), fluorescein (sc-374184 FITC), Alexa Fluor[®] 488 (sc-374184 AF488), Alexa Fluor[®] 546 (sc-374184 AF546), Alexa Fluor[®] 594 (sc-374184 AF594) or Alexa Fluor[®] 647 (sc-374184 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374184 AF680) or Alexa Fluor[®] 790 (sc-374184 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

GDF-5/6/7/16 (A-2) is recommended for detection of precursor and mature GDF-5, GDF-6, GDF-7 and GDF-16 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Molecular Weight of mature GDF-5/7: 15 kDa.

Molecular Weight of mature GDF-6: 51 kDa.

Molecular Weight of GDF-5/6/7/16 homodimer: 25 kDa.

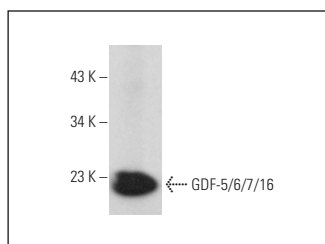
Molecular Weight of GDF-5/6/7/16 precursor: 70 kDa.

Positive Controls: human placenta extract: sc-363772.

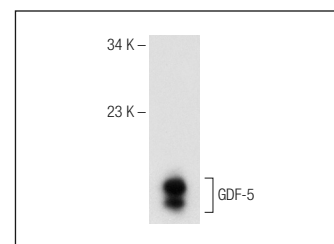
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



GDF-5/6/7/16 (A-2): sc-374184. Western blot analysis of GDF-5/6/7/16 expression in human placenta tissue extract.



GDF-5/6/7/16 (A-2): sc-374184. Western blot analysis of mouse recombinant GDF-5.

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 for detailed protocols and support products.