SANTA CRUZ BIOTECHNOLOGY, INC.

GDF-9 (C-20): sc-7407

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 been detected in ovary and is required for ovarian folliculogenesis. 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: GDF9 (human) mapping to 5q31.1, BMP15 (human) mapping to Xp11.2; Gdf9 (mouse) mapping to 11 B1.3, Bmp15 (mouse) mapping to X A1.1.

SOURCE

GDF-9 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GDF-9 of mouse 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-7407 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

GDF-9 (C-20) is recommended for detection of precursor and mature GDF-9 and, to a lesser extent, GDF-9B 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-9 (C-20) is also recommended for detection of precursor and mature GDF-9 and, to a lesser extent, GDF-9B in additional species, including equine, canine, bovine, porcine and avian.

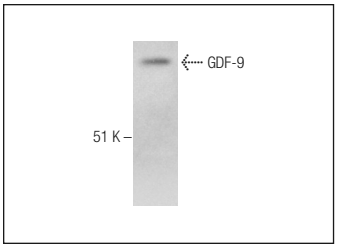
Molecular Weight of GDF-9: 57 kDa.

Positive Controls: mouse brain extract: sc-2253.

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-9 (C-20): sc-7407. Western blot analysis of GDF-9 expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

1. Jaatinen, R., et al. 1999. Localization of growth differentiation factor-9 (GDF-9) mRNA and protein in rat ovaries and cDNA cloning of rat GDF-9 and its novel homolog GDF-9B. Mol. Cell. Endocrinol. 156: 189-193.
2. Glister, C., et al. 2003. Oocyte-mediated suppression of follicle-stimulating hormone- and insulin-like growth factor-induced secretion of steroids and inhibin-related proteins by bovine granulosa cells *in vitro:* possible role of transforming growth factor α. Biol. Reprod. 68: 758-765.
3. Duffy, D.M., et al. 2003. Growth differentiation factor-9 is expressed by the primate follicle throughout the periovulatory interval. Biol. Reprod. 69: 725-732.
4. Wang, C., et al. 2005. Expression of growth differentiation factor-9 in the oocytes is essential for the development of primordial follicles in the hamster ovary. Endocrinology 147: 1725-1734.
5. Cansu, A., et al. 2008. Effects of chronic treatment with valproate and oxcarbazepine on ovarian folliculogenesis in rats. Epilepsia 49: 1192-1201.
6. Han, M., et al. 2011. Lower growth factor expression in follicular fluid undergone *in-vitro* fertilization. Clin. Exp. Reprod. Med. 38: 210-215.