Human GDF-3 Alexa Fluor® 532-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 741614

Catalog Number: FAB5754X

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human GDF-3 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) GDF-1, rhBMP-2, or rhBMP-6 is observed and approximately 5% cross-reactivity with recombinant mouse GDF-3 homodimer is observed.
Source	Monoclonal Mouse IgG_1 Clone # 741614
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human GDF-3 Ala251-Gly364 Accession # Q9NR23
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

GDF-3 (previously called Vgr-2) is a TGF-β superfamily member belonging to the growth/differentiation factor family (1, 2). GDF-3 is expressed in undifferentiated embryonic stem (ES) cells, white adipose tissue and the brain (2-4). The 364 amino acid (aa) human GDF-3 contains a 21 aa signal sequence, a 229 aa propeptide and a 114 aa mature region that contains one potential N-glycosylation site. The mature region contains a cysteine-knot structure that is conserved throughout family members. However, it lacks the fourth cysteine which is responsible for the formation of an inter-molecular disulfide bond, so GDF-3 may exist as a non-covalent homodimer (2, 5). Mature human GDF-3 shares 83%, 83%, 91%, 92% and 93% aa identity with mouse, rat, bovine, canine and equine GDF-3, respectively. Most of GDF-3 is present as the uncleaved prepro form (6). The uncleaved and the mature forms both appear to have activity, but that activity may differ (5-8). All forms can oppose BMPs. In human ES cells, inhibition of BMP-2 signaling by GDF-3 maintains pluripotency (5, 7). GDF-3 also influences early cell fate decisions; for example, deletion of mouse GDF-3 produces defects in the anterior visceral endoderm of the pre-gastrulation embryo (6-8). GDF-3 cooperates with GDF-1 in embryogenesis, and the mature protein has nodal-like activity (8, 9). Although GDF family members signal through BMP receptors (ALK-1, -2, -3 and -6), which activate Smads 1, 5 and 8, GDF-3 signaling through ALK-4 and ALK-7, which activate Smads 2 and 3, has also been reported (9, 10). In adipocytes, GDF-3 is induced by a high fat diet, promoting adipogenesis and obesity (3, 10, 11).

PRODUCT SPECIFIC NOTICES

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