

GDF-15 (C-13): sc-46249

BACKGROUND

Growth differentiation factor 15 (GDF-15), also known as PDF, MIC-1, PLAB, NAG-1 or PTGF- β , is a member of the transforming growth factor β (TGF β) superfamily. Synthesized intracellularly, the protein is secreted as a dimer linked by disulfide bonds. Epithelial cells and macrophages are the sites of strongest GDF-15 expression, although it is widely expressed in adult tissue. In the brain, GDF-15 expression occurs in the choroid plexus, from which the protein is secreted into the cerebrospinal fluid. The gene for GDF-15 is responsive to p53 tumor suppressor protein, and in cultured cerebellar granule neurons GDF-15 can prevent cell death by the activation of Akt and inhibition of ERK. GDF-15 acts as a trophic factor for certain classes of neurons, promoting cell survival and differentiation. Overexpression of GDF-15 occurs in prostate cancer, and may be a means of diagnosis. In the uterus, GDF-15 may work to suppress maternally derived proinflammatory cytokines, thereby promoting fetal survival.

REFERENCES

1. Fairlie, W.D., et al. 1999. MIC-1 is a novel TGF β superfamily cytokine associated with macrophage activation. *J. Leukoc. Biol.* 65: 2-5.
2. Bottner, M., et al. 1999. Expression of a novel member of the TGF β superfamily, growth/differentiation factor-15/macrophage-inhibiting cytokine-1 (GDF-15/MIC-1) in adult rat tissues. *Cell Tissue Res.* 297: 103-110.
3. Strelau, J., et al. 2000. GDF-15/MIC-1 a novel member of the TGF β superfamily. *J. Neural Transm. Suppl.* 60: 273-276.
4. Moore, A.G., et al. 2000. The transforming growth factor β superfamily cytokine macrophage inhibitory cytokine-1 is present in high concentrations in the serum of pregnant women. *J. Clin. Endocrinol. Metab.* 85: 4781-4788.
5. Bauskin, A.R., et al. 2000. The propeptide of macrophage inhibitory cytokine (MIC-1), a TGF β superfamily member, acts as a quality control determinant for correctly folded MIC-1. *EMBO J.* 19: 2212-2220.
6. Kim, K.S., et al. 2002. Expression and regulation of nonsteroidal anti-inflammatory drug-activated gene (NAG-1) in human and mouse tissue. *Gastroenterology* 122: 1388-1398.
7. Kriegstein, K., et al. 2002. TGF β and the regulation of neuron survival and death. *J. Physiol.* 96: 25-30.
8. Strelau, J., et al. 2003. Growth/differentiation factor-15 (GDF-15), a novel member of the TGF β superfamily, promotes survival of lesioned mesencephalic dopaminergic neurons *in vitro* and *in vivo* and is induced in neurons following cortical lesioning. *J. Neural. Transm. Suppl.* 65: 197-203.
9. Iczkowski, K.A., et al. 2003. Overexpression of NSAID-activated gene product in prostate cancer. *Int. J. Surg. Pathol.* 11: 159-166.

CHROMOSOMAL LOCATION

Genetic locus: GDF15 (human) mapping to 19p13.11; Gdf15 (mouse) mapping to 8 B3.3.

SOURCE

GDF-15 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GDF-15 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46249 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

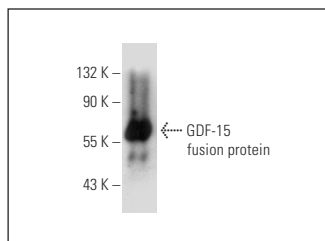
GDF-15 (C-13) is recommended for detection of precursor and mature GDF-15 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GDF-15 siRNA (h): sc-39798, GDF-15 siRNA (m): sc-39799, GDF-15 shRNA Plasmid (h): sc-39798-SH, GDF-15 shRNA Plasmid (m): sc-39799-SH, GDF-15 shRNA (h) Lentiviral Particles: sc-39798-V and GDF-15 shRNA (m) Lentiviral Particles: sc-39799-V.

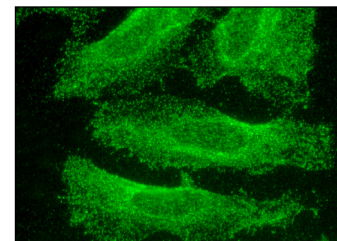
Molecular Weight of GDF-15 precursor: 40 kDa.

Molecular Weight of mature GDF-15: 30 kDa.

DATA



GDF-15 (C-13): sc-46249. Western blot analysis of human recombinant GDF-15 fusion protein.



GDF-15 (C-13): sc-46249. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic localization.

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 or our catalog for detailed protocols and support products.



Try **GDF-15 (G-5): sc-377195** or **GDF-15 (ME-6D10): sc-101379**, our highly recommended monoclonal alternatives to GDF-15 (C-13).