

# GDF-15 (H-20): sc-10603

## BACKGROUND

Growth differentiation factor 15 (GDF-15), also known as PDF, MIC-1, PLAB, NAG-1 or PTGF- $\beta$ , is a member of the transforming growth factor  $\beta$  (TGF $\beta$ ) 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.

## CHROMOSOMAL LOCATION

Genetic locus: GDF15 (human) mapping to 19p13.11.

## SOURCE

GDF-15 (H-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GDF-15 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-10603 P, (100  $\mu$ g 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.

## APPLICATIONS

GDF-15 (H-20) is recommended for detection of precursor GDF-15 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with mature GDF-15.

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

Molecular Weight of GDF-15 precursor: 40 kDa.

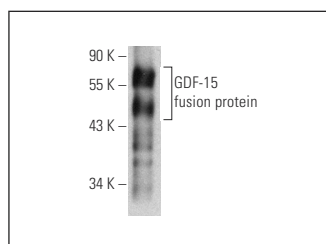
Molecular Weight of mature GDF-15: 30 kDa.

Positive Controls: LNCaP cell lysate: sc-2231.

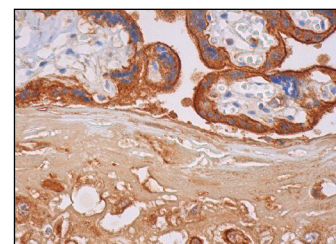
## RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



GDF-15 (H-20): sc-10603. Western blot analysis of human recombinant GDF-15 fusion protein.



GDF-15 (H-20): sc-10603. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and membrane staining of trophoblastic cells and decidual cells.

## SELECT PRODUCT CITATIONS

1. Chauhan, S., et al. 2004. Androgen control of cell proliferation and cytoskeletal reorganization in human fibrosarcoma cells: role of RhoB signalling. *J. Biol. Chem.* 279: 937-944.
2. Satoh, J., et al. 2006. Human astrocytes express 14-3-3  $\sigma$  in response to oxidative and DNA-damaging stresses. *Neurosci. Res.* 56: 61-72.
3. Liu, D.X., et al. 2007. Transcriptional activation of p53 by Pitx1. *Cell Death Differ.* 14: 1893-1907.
4. Soto-Cerrato, V., et al. 2007. The anticancer agent prodigiosin induces p21<sup>WAF1/CIP1</sup> expression via transforming growth factor- $\beta$  receptor pathway. *Biochem. Pharmacol.* 74: 1340-1349.

## RESEARCH USE

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



Try **GDF-15 (G-5): sc-377195** or **GDF-15 (ME-6D10): sc-101379**, our highly recommended monoclonal alternatives to GDF-15 (H-20).