

GDF15 Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8725b

Specification

GDF15 Antibody - Product Information

Application	WB,E
Primary Accession	O99988
Reactivity	Human
Predicted	Human
Host	Mouse
Clonality	monoclonal
Isotype	IgG1, κ
Calculated MW	34140

GDF15 Antibody - Additional Information

Gene ID 9518

Other Names

Growth/differentiation factor 15, GDF-15, Macrophage inhibitory cytokine 1, MIC-1, NSAID-activated gene 1 protein, NAG-1, NSAID-regulated gene 1 protein, NRG-1, Placental TGF-beta, Placental bone morphogenetic protein, Prostate differentiation factor, GDF15 ([HGNC:30142](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=30142))

Target/Specificity

This GDF15 antibody is generated from a mouse immunized with a recombinant protein from the human GDF15.

Dilution

WB~~1:4000

Format

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

GDF15 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

GDF15 Antibody - Protein Information

Name GDF15 {ECO:0000303|PubMed:23468844, ECO:0000312|HGNC:HGNC:30142}

Function Hormone produced in response to various stresses to confer information about those stresses to the brain, and trigger an aversive response, characterized by nausea, vomiting, and/or loss of appetite (PubMed:[23468844](#), PubMed:[24971956](#), PubMed:[28846097](#), PubMed:[28846098](#), PubMed:[28846099](#), PubMed:[28953886](#), PubMed:[29046435](#), PubMed:[30639358](#), PubMed:[31875646](#), PubMed:[33589633](#), PubMed:[38092039](#)). The aversive response is both required to reduce continuing exposure to those stresses at the time of exposure and to promote avoidance behavior in the future (PubMed:[30639358](#), PubMed:[33589633](#), PubMed:[38092039](#)). Acts by binding to its receptor, GFRAL, activating GFRAL-expressing neurons localized in the area postrema and nucleus tractus solitarius of the brainstem (PubMed:[28846097](#), PubMed:[28846098](#), PubMed:[28846099](#), PubMed:[28953886](#), PubMed:[31535977](#)). It then triggers the activation of neurons localized within the parabrachial nucleus and central amygdala, which constitutes part of the 'emergency circuit' that shapes responses to stressful conditions (PubMed:[28953886](#)). The GDF15-GFRAL signal induces expression of genes involved in metabolism, such as lipid metabolism in adipose tissues (PubMed:[31402172](#)). Required for avoidance behavior in response to food allergens: induced downstream of mast cell activation to promote aversion and minimize harmful effects of exposure to noxious substances (By similarity). In addition to suppress appetite, also promotes weight loss by enhancing energy expenditure in muscle: acts by increasing calcium futile cycling in muscle (By similarity). Contributes to the effect of metformin, an anti-diabetic drug, on appetite reduction and weight loss: produced in the kidney in response to metformin treatment, thereby activating the GDF15-GFRAL response, leading to reduced appetite and weight (PubMed:[31875646](#), PubMed:[37060902](#)). The contribution of GDF15 to weight loss following metformin treatment is however limited and subject to discussion (PubMed:[36001956](#)). Produced in response to anticancer drugs, such as camptothecin or cisplatin, promoting nausea, vomiting and contributing to malnutrition (By similarity). Overproduced in many cancers, promoting anorexia in cancer (cachexia) (PubMed:[32661391](#)). Responsible for the risk of nausea and vomiting during pregnancy: high levels of GDF15 during pregnancy, mostly originating from the fetus, are associated with increased nausea and vomiting (PubMed:[38092039](#)). Maternal sensitivity to nausea is probably determined by pre-pregnancy exposure to GDF15, women with naturally high level of GDF15 being less susceptible to nausea than women with low levels of GDF15 before pregnancy (PubMed:[38092039](#)). Promotes metabolic adaptation in response to systemic inflammation caused by bacterial and viral infections in order to promote tissue tolerance and prevent tissue damage (PubMed:[31402172](#)). Required for tissue tolerance in response to myocardial infarction by acting as an inhibitor of leukocyte integrin activation, thereby protecting against cardiac rupture (By similarity). Inhibits growth hormone signaling on hepatocytes (By similarity).

Cellular Location

Secreted Note=Secreted in the plasma.

Tissue Location

Detected in plasma (at protein level) (PubMed:[28572090](#), PubMed:[29046435](#)). Highly expressed in placenta, with lower levels in prostate and colon and some expression in kidney (PubMed:[37060902](#), PubMed:[9348093](#)).

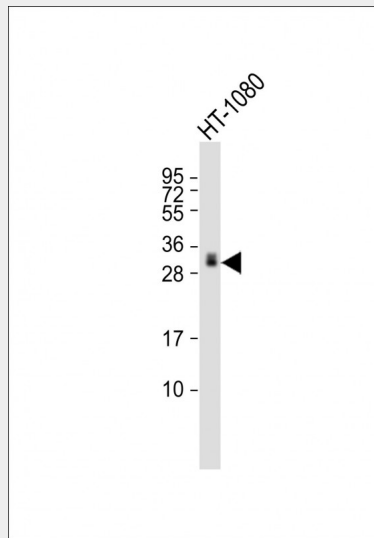
GDF15 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)

- [Cell Culture](#)

GDF15 Antibody - Images



Anti-GDF15 Antibody at 1:4000 dilution + HT-1080 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 34 kDa Blocking/Dilution buffer: 5% NFDm/TBST.

GDF15 Antibody - Background

Regulates food intake, energy expenditure and body weight in response to metabolic and toxin-induced stresses (PubMed:28953886, PubMed:28846097, PubMed:28846098, PubMed:28846099, PubMed:23468844, PubMed:29046435). Binds to its receptor, GFRAL, and activates GFRAL-expressing neurons localized in the area postrema and nucleus tractus solitarius of the brainstem (PubMed:28953886, PubMed:28846097, PubMed:28846098, PubMed:28846099). It then triggers the activation of neurons localized within the parabrachial nucleus and central amygdala, which constitutes part of the 'emergency circuit' that shapes feeding responses to stressful conditions (PubMed:28953886). On hepatocytes, inhibits growth hormone signaling (By similarity).

GDF15 Antibody - References

- Hromas R., et al. *Biochim. Biophys. Acta* 1354:40-44(1997).
Yokoyama-Kobayashi M., et al. *J. Biochem.* 122:622-626(1997).
Bootcov M.R., et al. *Proc. Natl. Acad. Sci. U.S.A.* 94:11514-11519(1997).
Paralkar V.M., et al. *J. Biol. Chem.* 273:13760-13767(1998).
Kalnina N., et al. Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.