

GDF15 Antibody (N-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12553a

Specification

GDF15 Antibody (N-term) - Product Information

Application	WB, IHC-P, FC,E
Primary Accession	O99988
Other Accession	NP_004855.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	34140
Antigen Region	51-79

GDF15 Antibody (N-term) - 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, MIC1, PDF, PLAB, PTGFB

Target/Specificity

This GDF15 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 51-79 amino acids from the N-terminal region of human GDF15.

Dilution

WB~~1:1000
IHC-P~~1:10~50
FC~~1:10~50

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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 (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

GDF15 Antibody (N-term) - 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](#)).

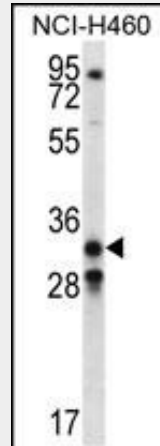
GDF15 Antibody (N-term) - Protocols

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

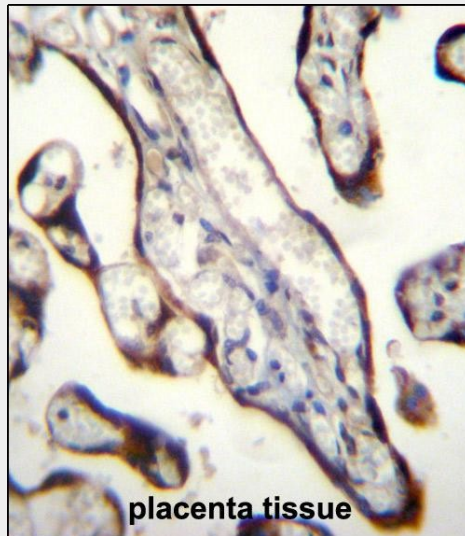
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)

- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

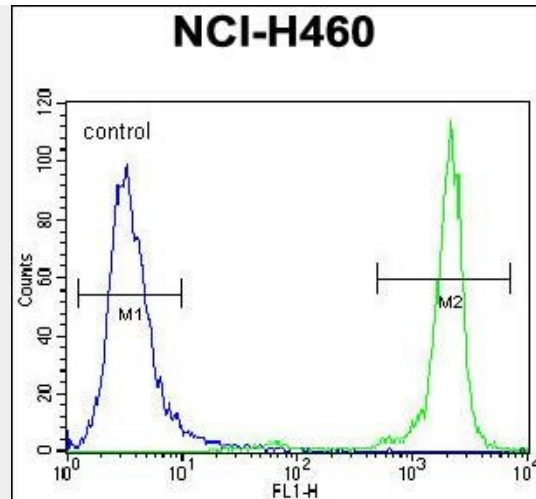
GDF15 Antibody (N-term) - Images



GDF15 Antibody (N-term) (Cat. #AP12553a) western blot analysis in NCI-H460 cell line lysates (35ug/lane). This demonstrates the GDF15 antibody detected the GDF15 protein (arrow).



GDF15 Antibody (N-term) (Cat. #AP12553a) immunohistochemistry analysis in formalin fixed and paraffin embedded human placenta tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of GDF15 Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.



GDF15 Antibody (N-term) (Cat. #AP12553a) flow cytometric analysis of NCI-H460 cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

GDF15 Antibody (N-term) - Background

Bone morphogenetic proteins (e.g., BMP9; MIM 605120) are members of the transforming growth factor-beta (see TGFB1; MIM 190180) superfamily and regulate tissue differentiation and maintenance. They are synthesized as precursor molecules that are processed at a dibasic cleavage site to release C-terminal domains containing a characteristic motif of 7 conserved cysteines in the mature protein.

GDF15 Antibody (N-term) - References

- Anand, I.S., et al. *Circulation* 122(14):1387-1395(2010)
- Bailey, S.D., et al. *Diabetes Care* 33(10):2250-2253(2010)
- Staff, A.C., et al. *Gynecol. Oncol.* 118(3):237-243(2010)
- Roth, P., et al. *Clin. Cancer Res.* 16(15):3851-3859(2010)
- Huh, S.J., et al. *Am. J. Pathol.* 176(6):2948-2957(2010)