

Anti-GDF15 Picoband Antibody
Catalog # ABO10195**Specification****Anti-GDF15 Picoband Antibody - Product Information**

Application	WB
Primary Accession	Q99988
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Growth/differentiation factor 15(GDF15) detection. Tested with WB in Human.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-GDF15 Picoband 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, MIC1, PDF, PLAB, PTGFB

Calculated MW

34140 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization

Secreted .

Tissue Specificity

Highly expressed in placenta, with lower levels in prostate and colon and some expression in kidney.

Protein Name

Growth/differentiation factor 15

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Na₃.

Immunogen

E.coli-derived human GDF15 recombinant protein (Position: A195-I308). Human GDF15 shares

68.1% and 69.2% amino acid (aa) sequence identity with mouse and rat GDF15, respectively.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins.

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Anti-GDF15 Picoband 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](http://www.uniprot.org/citations/23468844), PubMed: [24971956](http://www.uniprot.org/citations/24971956), PubMed: [28846097](http://www.uniprot.org/citations/28846097), PubMed: [28846098](http://www.uniprot.org/citations/28846098), PubMed: [28846099](http://www.uniprot.org/citations/28846099), PubMed: [28953886](http://www.uniprot.org/citations/28953886), PubMed: [29046435](http://www.uniprot.org/citations/29046435), PubMed: [30639358](http://www.uniprot.org/citations/30639358), PubMed: [31875646](http://www.uniprot.org/citations/31875646), PubMed: [33589633](http://www.uniprot.org/citations/33589633), PubMed: [38092039](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/30639358), PubMed: [33589633](http://www.uniprot.org/citations/33589633), PubMed: [38092039](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/28846097), PubMed: [28846098](http://www.uniprot.org/citations/28846098), PubMed: [28846099](http://www.uniprot.org/citations/28846099), PubMed: [28953886](http://www.uniprot.org/citations/28953886), PubMed: [31535977](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/28953886)). The GDF15-GFRAL signal induces expression of genes involved in metabolism, such as lipid metabolism in adipose tissues (PubMed: [31402172](http://www.uniprot.org/citations/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).

Anti-GDF15 Picoband 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](#)

Anti-GDF15 Picoband Antibody - Images



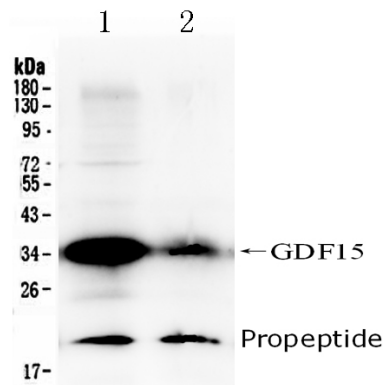


Figure 1. Western blot analysis of GDF15 using anti- GDF15 antibody (ABO10195). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: 22RV whole Cell lysates, Lane 2: human placenta tissue lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti- GDF15 antigen affinity purified polyclonal antibody (Catalog # ABO10195) at 0.5 μ g/mL overnight at 4 $^{\circ}$ C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for GDF15 at approximately 34KD. The expected band size for GDF15 is at 34KD.

Anti-GDF15 Picoband Antibody - Background

Growth/differentiation factor 15 (GDF15) is a protein belonging to the transforming growth factor beta superfamily that has a role in regulating inflammatory and apoptotic pathways in injured tissues and during disease processes. GDF15 is also known as TGF-PL, MIC-1, PDF, PLAB, and PTGFB. GDF15 mRNA is most abundant in the liver, with lower levels seen in some other tissues. Its expression in liver can be significantly up-regulated in during injury of organs such as liver, kidney, heart and lung.