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Goat Anti-GDF15 Antibody
Peptide-affinity purified goat antibody
Catalog # AF1474a

Specification

Goat Anti-GDF15 Antibody - Product Information

Application	**WB, FC, IHC**
Primary Accession	Q99988
Other Accession	NP_004855, 9518
Reactivity	**Human**
Predicted	**Mouse, Rat**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**34140**

Goat Anti-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, MIC1, PDF, PLAB, PTGFB

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-GDF15 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-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:<a href="http://www.uniprot.org/citations/23468844"

target="_blank">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 integring 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).

Goat Anti-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 Cytomety
- Cell Culture

Goat Anti-GDF15 Antibody - Images

AF1474a (0.1 µg/ml) staining of Human Prostate lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

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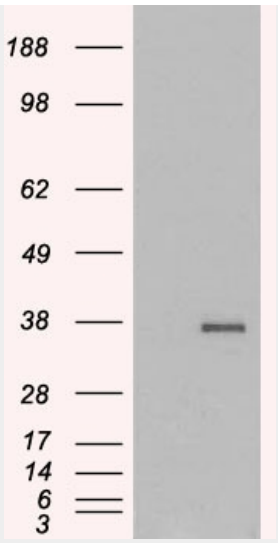
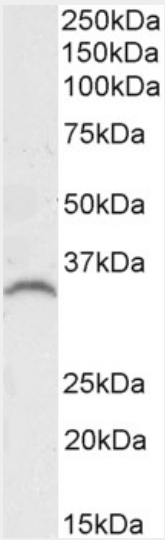
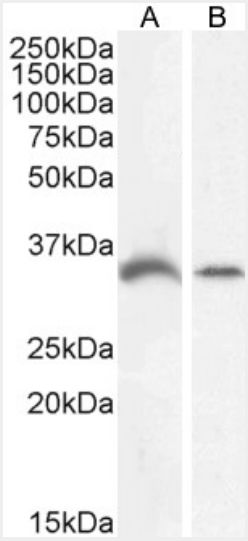


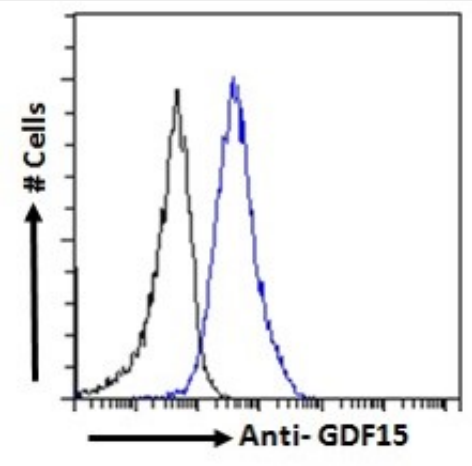
HEK293 overexpressing GDF15 (RC201295) and probed with AF1474a (mock transfection in first lane), tested by Origene.



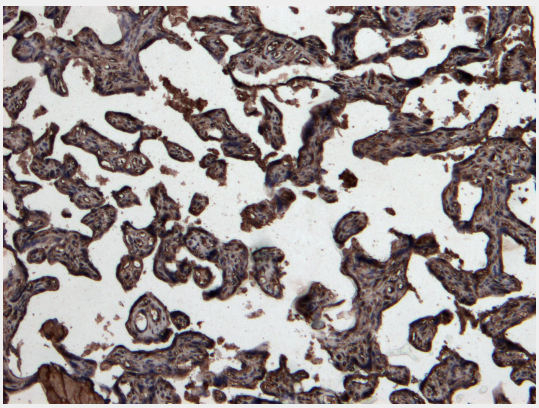
EB06909 (0.1µg/ml) staining of Human Prostate lysate (35µg protein in RIPA buffer). Detected by chemiluminescence.



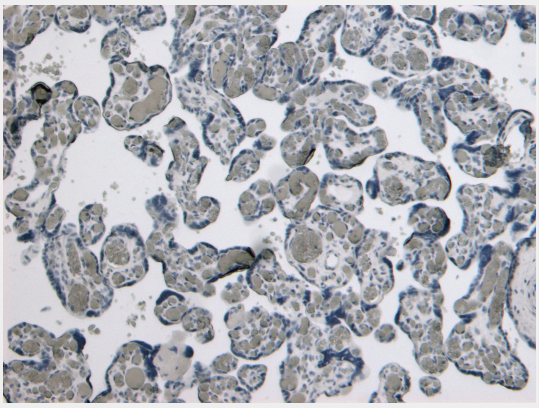
EB06909 (0.1g/ml) staining of LNCaP (A) and (0.3ug/ml) K562 (B) cell lysate (35µg protein in RIPA buffer). Detected by chemiluminescence.



EB06909 Flow cytometric analysis of paraformaldehyde fixed HeLa cells (blue line), permeabilized with 0.5% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (1ug/ml). IgG control: Unimmunized goat IgG (black line) fol



EB06909 (7µg/ml) staining of paraffin embedded Human Placenta. Heat induced antigen retrieval with citrate buffer pH 6, HRP-staining.



EB06909 Negative Control showing staining of paraffin embedded Human Placenta, with no primary antibody.

Goat Anti-GDF15 Antibody - 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.

Goat Anti-GDF15 Antibody - References

Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.
Growth differentiation factor-15 as a prognostic biomarker in ovarian cancer. Staff AC, et al. Gynecol Oncol, 2010 Sep. PMID 20576287.
MCC-555-induced NAG-1 expression is mediated in part by KLF4. Cekanova M, et al. Eur J Pharmacol, 2010 Jul 10. PMID 20385121.
New genetic associations detected in a host response study to hepatitis B vaccine. Davila S, et al. Genes Immun, 2010 Apr. PMID 20237496.
Analysis of NSAID-activated gene 1 expression in prostate cancer. Kawahara T, et al. Urol Int, 2010. PMID 20215826.