abcam

ab39999

Anti-GDF15 antibody

Key facts

Isotype	IgG
Host species	Goat
Storage buffer	pH: 7.3 Preservative: 0.02% Sodium azide Constituents: Tris buffered saline, 0.5% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human GDF15 aa 250-300. The exact immunogen used to generate this antibody is proprietary information. Database link Q99988
Purification technique	Affinity purification Immunogen
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	0.1 µg/mL
Notes	1 hour primary incubation is recommended for this product.

Predicted

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information GDF15

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 integring activation, thereby protecting against cardiac rupture (By similarity). Inhibits growth hormone signaling on hepatocytes (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

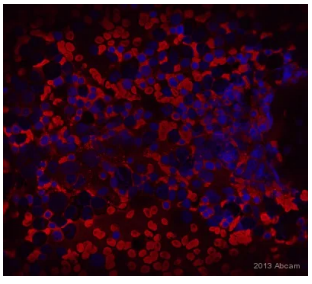
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

3 product images

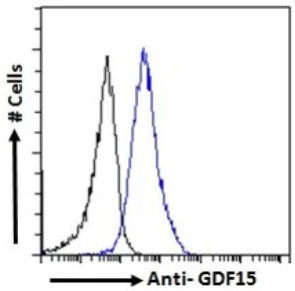


This image is courtesy of a customer review submitted by Dr. Ruma Raha-Chowdhury, Cambridge University, United Kingdom.

Immunocytochemistry/ Immunofluorescence - Anti-GDF15 antibody (ab39999)

GDF15 Immunocytochemistry/ Immunofluorescence staining using goat Anti-GDF15 antibody

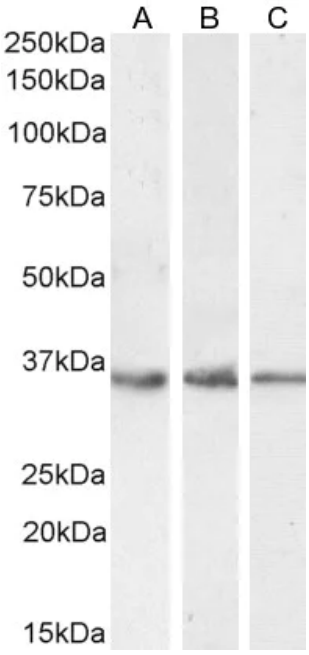
ICC/IF image of human bone marrow smear stained with ab39999(1/250). The smear was permeabilized in 0.1% PBS-Triton X for 1h and incubated with 10% donkey serum for 1hr at 24°C to block non-specific protein-protein interactions. The sections were then incubated with ab39999 used at 1/250 dilution, overnight at +4°C. The secondary antibody was Alexa Fluor® 568 donkey anti-goat used at a 1/1000 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Flow Cytometry (Intracellular) - Anti-GDF15 antibody (ab39999)

GDF15 Flow Cytometry (Intracellular) staining using goat Anti-GDF15 antibody

Flow cytometric analysis of paraformaldehyde fixed, 0.5% Triton permeabilized HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling GDF-15 using ab39999 at 10 µg/ml followed by Alexa Fluor 488 secondary antibody (blue) at 1 µg/ml. Unimmunized goat IgG was used as isotype control, followed by Alexa Fluor 488 secondary antibody (black).



Western blot - Anti-GDF15 antibody (ab39999)

Lanes 1 - 2:
Western blot - Anti-GDF15 antibody (ab39999) at 0.1 µg/mL

Lane 3:
Western blot - Anti-GDF15 antibody (ab39999) at 0.3 µg/mL

Lane 1:
A549 cell lysate at 35 µg

Lane 2:
CaCo-2 cell lysate at 35 µg

Lane 3:
LNCaP cell lysate at 35 µg

Predicted band size: 34 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.