Product Datasheet

FFAR4/GPR120 Antibody - BSA Free
NBP1-00858

Unit Size: 0.1 mg

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

Reviews: 1 Publications: 22

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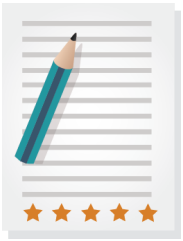
Updated 10/23/2024 v.20.1



NBP1-00858

FFAR4/GPR120 Antibody - BSA Free

Product Information

Unit Size	0.1 mg
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS

Product Description

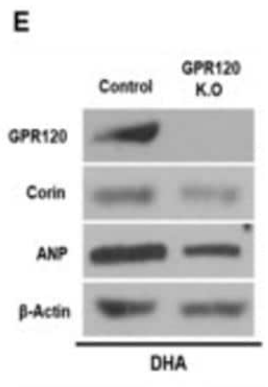
Host	Rabbit
Gene ID	338557
Gene Symbol	FFAR4
Species	Human, Mouse, Rat
Immunogen	A synthetic peptide made to an internal portion of the human GPR120 protein (between residues 200-300) [UniProt Q5NUL3]

Product Application Details

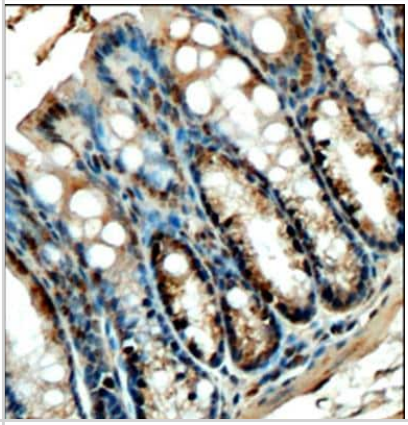
Applications	Western Blot, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Knockdown Validated, Knockout Validated
Recommended Dilutions	Western Blot 1:500-1:1000, Flow Cytometry reported in scientific literature (PMID 34911928), Immunohistochemistry 1:200, Immunocytochemistry/ Immunofluorescence 1:50-1:200, Immunohistochemistry-Paraffin 1:200, Knockout Validated, Knockdown Validated

Images

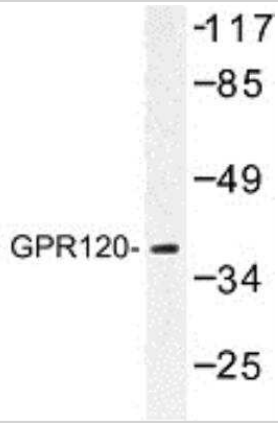
Knockout Validated: FFAR4/GPR120 Antibody [NBP1-00858] - 3T3-L1 cells were exposed to DHA (100 i1/4M) for 2 d in the presence of the differentiation medium. The expression of GPR120, corin and ANP was measured in the GPR120 deficient adipocytes treated with DHA by Western blotting. Image collected and cropped by Citeab from the following publication (Expression and Secretion of an Atrial Natriuretic Peptide in Beige-Like 3T3-L1 Adipocytes. Int J Mol Sci (2019) licensed under a CC-BY license.



Immunohistochemistry-Paraffin: FFAR4/GPR120 Antibody [NBP1-00858] - IHC analysis of formalin fixed paraffin embedded tissue section of mouse intestine using FFAR4/GPR120 antibody at 1:200 dilution. The intestinal epithelial cells showed an expected cytoplasmic staining (immunogen of NBP1-00858 corresponds to the cytoplasmic domain of GPR120 protein), while some cells especially the goblet cells population depicted nuclear positivity also. The observed nuclear signal may be justified on the fact that - some GPCRs are known for nuclear translocation upon binding to extracellular or endogenous/non-secreted ligands, wherein they impact the trancriptional regulation via GPCR-heterotrimeric G-protein-effector complexes.



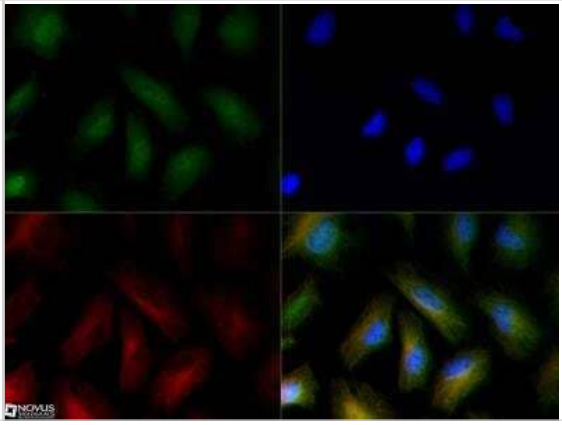
Western Blot: FFAR4/GPR120 Antibody [NBP1-00858] - Analysis of GPR120 (V259) antibody in extracts from LOVO cells.



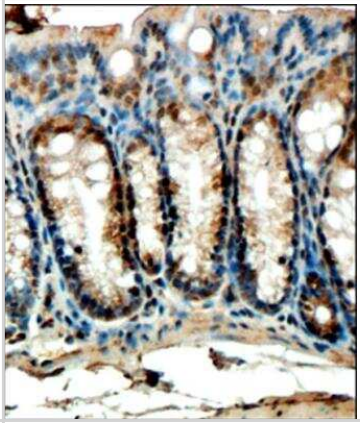
Western Blot: FFAR4/GPR120 Antibody [NBP1-00858] - GPR120 expression in mouse spleen cells (1), bone marrow (2), bone marrow derived DC (3) and macrophages (4). This image was submitted through a verified customer review.

Lane 1: mouse spleen cells;
Lane 2: mouse bone marrow;
Lane 3: bone marrow derived DCs;
Lane 4: bone marrow derived macropages.

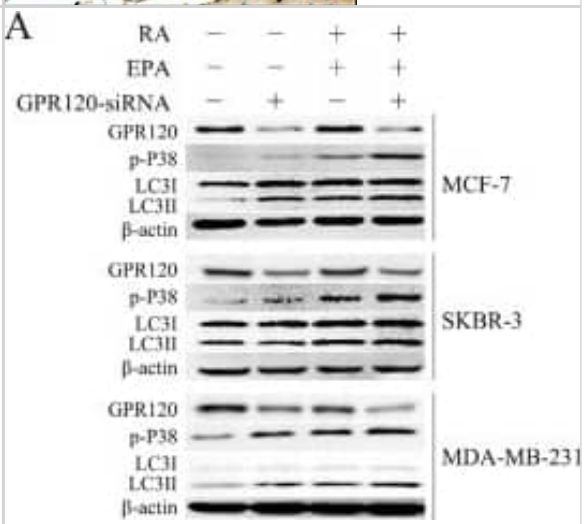
Immunocytochemistry/Immunofluorescence: FFAR4/GPR120 Antibody [NBP1-00858] - GPR120 antibody was tested at 1:50 in HeLa cells with Dylight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and Dylight 550 (red). Image objective 40x.



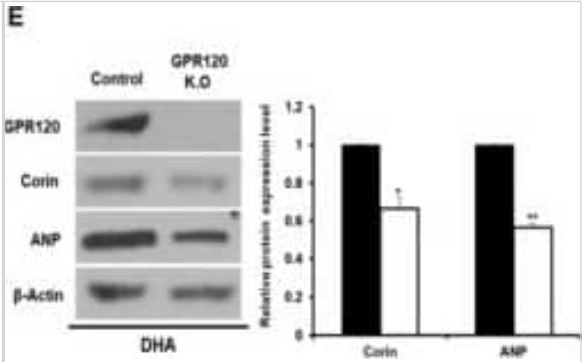
Immunohistochemistry-Paraffin: FFAR4/GPR120 Antibody [NBP1-00858] - IHC analysis of formalin fixed paraffin embedded tissue section of mouse intestine using FFAR4/GPR120 antibody at 1:200 dilution. The intestinal epithelial cells showed an expected cytoplasmic staining (immunogen of NBP1-00858 corresponds to the cytoplasmic domain of GPR120 protein), while some cells especially the goblet cells population depicted nuclear positivity also. The observed nuclear signal may be justified on the fact that - some GPCRs are known for nuclear translocation upon binding to extracellular or endogenous/non-secreted ligands, wherein they impact the trancriptional regulation via GPCR-heterotrimeric G-protein-effector complexes.



Western Blot: FFAR4/GPR120 Antibody - BSA Free [NBP1-00858] - The combination of RA & ω-3 PUFAs induces Gαq-P38 activation through RARα & GPR40(A): Cells were treated with RA(20μM) + EPA(80μM) with or without GPR120-knockdown for 15 min. Cell extracts were prepared & subjected to western blotting analysis. (B): Cells were treated with RA(20μM) + EPA(80μM) with or without GPR40-knockdown for 15 min. Cell extracts were prepared & subjected to western blotting analysis. (C): Cells were treated with RA(20μM) + EPA(80μM) with or without RARα-knockdown for 15 min. Cell extracts were prepared & subjected to western blotting analysis. (D): Cells were treated with RA (20μM) + EPA(80μM) with or without RARβ-knockdown for 15 min. Cell extracts were prepared & subjected to western blotting analysis. (E): Cells were treated with RA(20μM) + EPA(80μM) with or without RARγ-knockdown for 15 min. Cell extracts were prepared & subjected to western blotting analysis. (F): MCF-7 cells were treated with RA(20μM) + EPA(80μM) & their extracts fractionated using an iodixanol density gradient, as described in the Materials & Methods section. Each fraction was subjected to SDS-PAGE & immunoblot analysis using antibodies against the indicated proteins. (G): MCF-7 cells were pretreated with the indicated concentrations of methyl-β-cyclodextrin (MβCD) for 1 h, followed by 15 min treatment with RA(20μM) + EPA(80μM). Cell lysates were prepared & subjected to SDS-PAGE & immunoblot analysis. (H): MCF-7 cells were pretreated with the indicated concentrations of methyl-β-cyclodextrin (MβCD) for 1 h followed by 24h treatment with RA (20μM) + EPA(80μM), & then subjected to cell counts. Image collected & cropped by CiteAb from the following publication (https://www.oncotarget.com/lookup/doi/10.18632/oncotarget.22629), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: FFAR4/GPR120 Antibody - BSA Free [NBP1-00858] - The expression of corin & ANP was increased in DHA-induced adipocytes. 3T3-L1 cells were exposed to DHA (100 μM) for 2 d in the presence of the differentiation medium. (A–C) The expression of corin & ANP in DHA-induced adipocytes was analyzed by qRT-PCR & Western blotting. The basal delta-Ct levels for tested genes are presented as Supplementary Table S2. ** p < 0.01. (D,E) The expression of corin & ANP was measured in the GPR120 deficient adipocytes treated with DHA by qRT-PCR & Western blotting. * p < 0.05, ** p < 0.01, *** p < 0.001. (F) 3T3-L1 cells were treated with 1 μM TUG-891, a potent GPR120 agonist for 24 h. The corin & ANP expression levels were analyzed by Western blotting. (G) The concentration of ANP was measured in the media derived from the DHA-induced adipocytes using ELISA. ** p < 0.01. The data are shown as the means ± standard deviations from three or more independent experiments. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31817347), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Pierre-Marie Boutanquoi, Amira Sayed Khan, Lidia Cabeza, Lucas Jantzen, Thomas Gautier, Semen Yesylevskyy, Christophe Ramseyer, David Masson, Vincent Van Waes, Aziz Hichami, Naim Akhtar Khan A novel fatty acid analogue triggers CD36–GPR120 interaction and exerts anti-inflammatory action in endotoxemia Cellular and Molecular Life Sciences 2024-04-10 [PMID: 38598021]

Karmokar PF, Moniri NH Free-Fatty Acid Receptor-4 (FFA4/GPR120) differentially regulates migration, invasion, proliferation and tumor growth of papillary renal cell carcinoma cells Biochemical pharmacology 2023-05-16 [PMID: 37201877]

Yu H, Yang W, Huang J et al. GPR120 induces regulatory dendritic cells by inhibiting HK2-dependent glycolysis to alleviate fulminant hepatic failure Cell death & disease 2021-12-16 [PMID: 34911928] (FLOW, Mouse)

Ito T, Yamamoto Y, Yamagishi N, Kanai Y Stomach secretes estrogen in response to the blood triglyceride levels Communications biology 2021-12-07 [PMID: 34876651] (IHC-P, Rat)

Kamakura R, Raza GS, Prasannan A et al. Dipeptidyl peptidase 4 and GLP-1 interplay in STC-1 and GLUTag cell lines Peptides 2020-09-27 [PMID: 32998057] (WB, Mouse)

Bae IS, Kim SH Expression and Secretion of an Atrial Natriuretic Peptide in Beige-Like 3T3-L1 Adipocytes Int J Mol Sci 2019-12-05 [PMID: 31817347] (WB, Human)

Bodis K, Kahl S, Simon MC et al. Reduced expression of stearoyl-CoA desaturase-1, but not free fatty acid receptor 2 or 4 in subcutaneous adipose tissue of patients with newly diagnosed type 2 diabetes mellitus. Nutr Diabetes 2018-09-07 [PMID: 30190473] (Human)

Liu D, Costanzo A, Evans MDM et al. Expression of the candidate fat taste receptors in human fungiform papillae and the association with fat taste function. Br. J. Nutr. 2018-07-01 [PMID: 29936924] (IF/IHC, Human)

Zhu S, Lin G, Song C et al. RA and O-3 PUFA co-treatment activates autophagy in cancer cells Oncotarget 2017-12-12 [PMID: 29312596] (WB, Human)

Kang S, Huang J, Lee BK et al. Omega-3 polyunsaturated fatty acids protect human hepatoma cells from developing steatosis through FFA4 (GPR120) Biochim. Biophys. Acta. 2017-11-07 [PMID: 29126901] (ICC/IF, Human)

Zhu S, Jiang X, Jiang S et al. GPR120 is not required for w-3 PUFAs-induced cell growth inhibition and apoptosis in breast cancer cells. Cell Biol. Int. 2017-10-05 [PMID: 28980737] (Human)

Cheshmehkani A, Senatorov IS, Dhuguru J et al. Free-fatty acid receptor-4 (FFA4) modulates ROS generation and COX-2 expression via the C-terminal B-arrestin phosphosensor in Raw 264.7 macrophages Biochem. Pharmacol. 2017-09-21 [PMID: 28943238] (Mouse)

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Procedures

Western Blot protocol for FFAR4/GPR120 Antibody (NBP1-00858)

Western Blot Protocol

1. Perform SDS-PAGE using a 12% gel on samples to be analyzed, loading 25 ug of total protein per lane.
2. Transfer proteins to membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain according to standard Ponceau S procedure (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot.
5. Block the membrane using standard blocking buffer for at least 1 hour.
6. Wash the membrane in wash buffer three times for 10 minutes each.
7. Dilute anti-GPR120 primary antibody in blocking buffer and incubate 1 hour at room temperature.
8. Wash the membrane in wash buffer three times for 10 minutes each.
9. Apply the diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturers instructions) and incubate 1 hour at room temperature.
10. Wash the blot in wash buffer three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturers instructions.

Note: Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%.

Immunocytochemistry/Immunofluorescence protocol for FFAR4/GPR120 Antibody (NBP1-00858)

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and add 10% formalin to the dish. Fix at room temperature for 30 minutes.
2. Remove the formalin and add ice cold methanol. Incubate for 5-10 minutes.
3. Remove methanol and add washing solution (i.e. PBS). Be sure to not let the specimen dry out. Wash three times for 10 minutes.
4. To block nonspecific antibody binding incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
5. Add primary antibody at appropriate dilution and incubate at room temperature from 2 hours to overnight at room temperature.
6. Remove primary antibody and replace with washing solution. Wash three times for 10 minutes.
7. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
8. Remove antibody and replace with wash solution, then wash for 10 minutes. Add Hoechst 33258 to wash solution at 1:25,0000 and incubate for 10 minutes. Wash a third time for 10 minutes.
9. Cells can be viewed directly after washing. The plates can also be stored in PBS containing Azide covered in Parafilm (TM). Cells can also be cover-slipped using Fluoromount, with appropriate sealing.

*The above information is only intended as a guide. The researcher should determine what protocol best meets their needs. Please follow safe laboratory procedures.

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NBP1-00858H	FFAR4/GPR120 Antibody [HRP]

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This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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