Product Datasheet

HM74A/PUMA-G/GPR109A/NIACR1 Antibody - BSA Free
NBP1-92180

Unit Size: 0.1 ml

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

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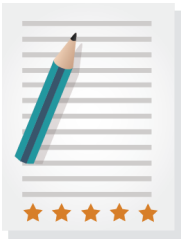
Updated 12/2/2025 v.20.1



NBP1-92180

HM74A/PUMA-G/GPR109A/NIACR1 Antibody - BSA Free

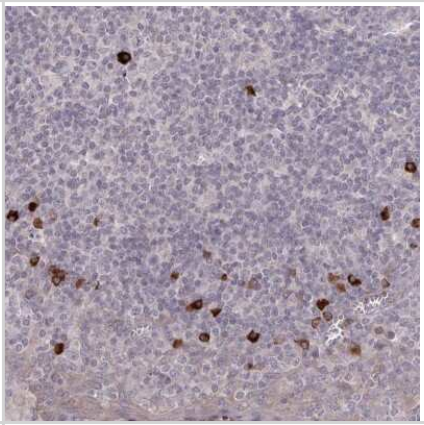
Product Information	
Unit Size	0.1 ml
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Affinity purified
Buffer	PBS (pH 7.2) and 40% Glycerol

Product Description	
Description	Novus Biologicals Rabbit HM74A/PUMA-G/GPR109A/NIACR1 Antibody - BSA Free (NBP1-92180) is a polyclonal antibody validated for use in IHC and WB. Anti-HM74A/PUMA-G/GPR109A/NIACR1 Antibody: Cited in 7 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	338442
Gene Symbol	HCAR2
Species	Human, Mouse, Rat, Bovine
Reactivity Notes	Rat reactivity reported in scientific literature (PMID: 25622782). Use in Mouse reported in scientific literature (PMID:32377164). Use in Bovine reported in scientific literature (PMID: 32397071).
Immunogen	This antibody was developed against Recombinant Protein corresponding to amino acids: NRCLQRKMTGEPDNNRSTSVELTGDPNKTRGAPEALMANSGEPWSPSYLGP

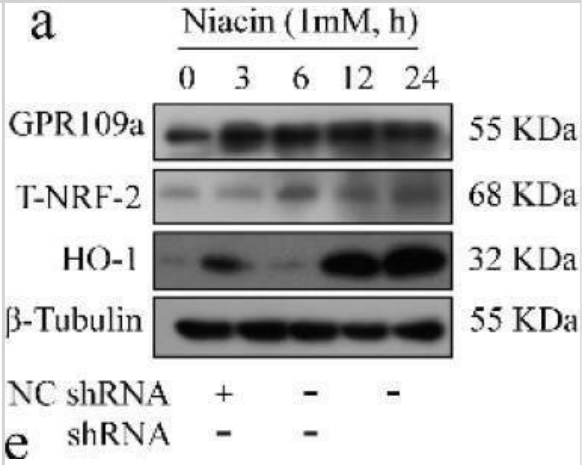
Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, Immunohistochemistry, Knockdown Validated
Recommended Dilutions	Western Blot Reported in scientific literature (PMID 25622782)., Immunohistochemistry 1:50 - 1:200, Immunohistochemistry-Paraffin 1:50 - 1:200, Knockdown Validated Reported in scientific publication (PMID: 32397071).
Application Notes	For IHC-Paraffin, HIER pH 6 retrieval method is recommended.

Images

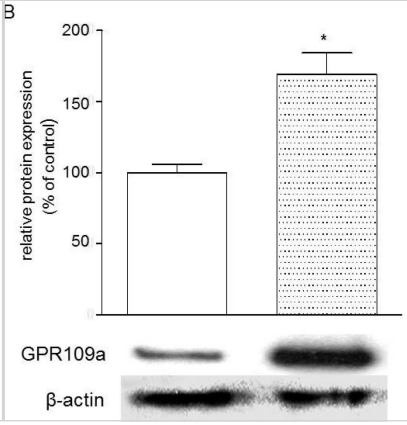
Immunohistochemistry-Paraffin: HM74A/PUMA-G/GPR109A/NIACR1 Antibody [NBP1-92180] - Staining of human tonsil shows strong cytoplasmic positivity in non-germinal center cells.



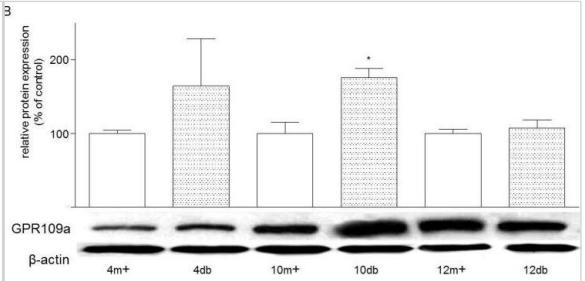
Niacin can activate the GPR109A/NRF2/autophagy signal pathway. The cells were collected at 0, 3, 6, 12, and 24 h to extract the total protein. The total protein was prepared and subjected to Western blotting using GPR109A, NRF-2, HO-1, and β-tubulin antibodies. T-NRF-2 means total NRF-2. (a–d) The protein levels of GPR109A, NRF-2, and HO-1. The cells from different experimental groups were treated with niacin or shRNA+niacin for 24 h, and then, the total protein was collected. N-NRF-2 means NRF-2 in the nucleus. C-NRF-2 means NRF-2 in the cytoplasm. (e–h) The protein levels of GPR109A, C-NRF-2, N-NRF-2, and HO-1. Each immunoreactive band was digitized and expressed as a ratio of the β-tubulin level. (i) The immunofluorescence results of the assay for NRF-2. The scale length in the figure is 200 μM. (j) The relative fluorescence intensity of NRF-2/ARE. The mRNA levels were determined by qRT-PCR. (k) The mRNA levels of ATG12, ATG4D, p62, ATG5, ULK1, ATG4B, Beclin, LC3B, and ATG7 were normalized to the level of β-actin. The values are presented as the means +/- SD (□ $p < 0.05$ and □□ $p < 0.01$). Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/32397071), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



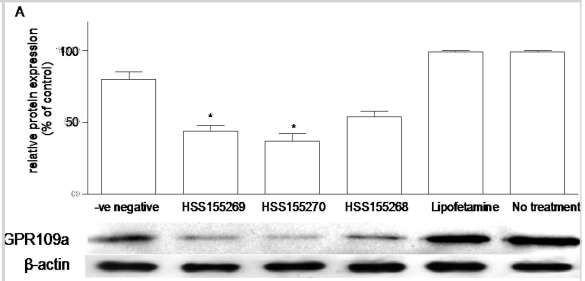
(A) Effects of high glucose concentration (25.2 mM) on the mRNA expression of GPR109a in Caco-2 cells vs. low glucose concentration (5.6 mM). Results are expressed as means +/- standard error of the mean (SEM), n = 3, control = 5.6 mM glucose, control vs. 25.2 mM glucose, * $p < 0.05$; (B) Effects of high glucose (25.2 mM) on GPR109a protein expression in Caco-2 cells vs. control 5.6 mM glucose concentrations. Results are expressed as means +/- SEM, n = 6, control = 5.6 mM vs. 25.2 mM, * $p < 0.05$. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/26371038), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



(A) Effects of age and Type 2 Diabetes Mellitus (T2DM) on the mRNA expression of GPR109a in jejunal mucosa. Mouse mRNA abundance was determined by real-time PCR using jejunal mucosa and data were calculated as the percentage of their corresponding m+ non-diabetic controls. All results are expressed relative to enterocytes of non-diabetic rats, and are given as mean +/- standard error of the mean (SEM), n = 3–4; 10 db vs. 10 m+, **p < 0.01; (B) Effects of age and T2DM on the protein expression of GPR109a in jejunal enterocytes. Western blot analysis showing the relative expression of GPR109a in homogenates of enterocytes prepared from jejuna of m+/db and db/db mice of 4, 10 or 12 weeks of age. Data were calculated as the percentage change compared to their corresponding m+ non-diabetic control. Results are expressed as means +/- SEM, n = 3–5, 10m+ vs. 10 db, *p < 0.05. 4m+, 8m+, 10m+ and 12m+ represent 4-, 8-, 10- and 12-week-old m+/db mice respectively; whereas 4 db, 8 db, 10 db and 12 db represent 4-, 8-, 10- and 12-week-old db/db mice, respectively. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/26371038), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



(A) Effects of siRNA knockdown of GPR109a on the expression of GPR109a protein in Caco-2 cells grown in 5.6 mM glucose. Western blot analysis showing the relative expression of niacin receptor in homogenates of cells prepared from the -ve negative (negative control siRNA, Silencer® Select Negative Control siRNA, non-targeting SiRNA with limited sequence similarity to known genes), and three different sequences of siRNA (HSS155269, HSS155270 and HSS155268). “Lipofetamine" contains only the lipofetamine transfection buffer, without any siRNA. “No treatment" contains neither the transfection buffer nor any siRNA. Results are expressed as means +/- standard error of the mean (SEM), n = 6. HSS155269 vs. negative control, 45% decrease in expression, *p < 0.05; HSS155270 vs. negative control, 53.8% decrease in expression, *p < 0.05; (B) Effects of siRNA (HSS155270) knockdown of GPR109a on the glucose uptake of Caco-2 cells grown in 5.6 mM glucose. Knockdown of GPR109a decreased the rate of glucose uptake by 30.2%, n = 5, *p < 0.05. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/26371038), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Grunenwald A, Peliconi J, Zarantonello A et al. HCAR2 is a novel receptor for heme Blood Advances 2025-09-09 [PMID: 40353812]

Yang Y, Pei T, Hu X et al. Dietary vitamin B3 supplementation induces the antitumor immunity against liver cancer via biased GPR109A signaling in myeloid cell Cell Reports Medicine 2024-09-17 [PMID: 39293389]

Chen J, Lin T, Zhang S et al. Niacin/?-hydroxybutyrate regulates milk fat and milk protein synthesis via the GPR109A/Gi/mTORC1 pathway Food & function 2023-03-20 [PMID: 36866679]

Lee W, Yu H, Tain Y et al. Vinpocetine Ameliorates Metabolic-Syndrome-Associated Bladder Overactivity in Fructose-Fed Rats by Restoring Succinate-Modulated cAMP Levels and Exerting Anti-Inflammatory Effects in the Bladder Detrusor Muscle Biomedicines 2022-10-26 [PMID: 36359236] (WB, Rat)

Guo W, Liu J, Li W et al. Niacin Alleviates Dairy Cow Mastitis by Regulating the GPR109A/AMPK/NRF2 Signaling Pathway Int J Mol Sci 2020-05-08 [PMID: 32397071] (KD, WB, IF/IHC, Bovine)

Sun J, Yuan B, Wu Y et al. Sodium Butyrate Protects N2a Cells against A beta Toxicity In Vitro Mediators of Inflammation 2020-04-15 [PMID: 32377164] (WB, Mouse)

Wong TP, Chan LK, Leung PS. Involvement of the Niacin Receptor GPR109a in the LocalControl of Glucose Uptake in Small Intestine of Type 2Diabetic Mice. Nutrients 2015-09-15 [PMID: 26371038] (WB, Human)

Chen L, So WY, Li SY et al. Niacin-induced hyperglycemia is partially mediated via niacin receptor GPR109a in pancreatic islets Mol. Cell. Endocrinol. 2015-01-23 [PMID: 25622782] (WB, Rat)

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NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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