Product Datasheet

FPRL1/FPR2 Antibody - BSA Free
NLS1878SS

Unit Size: 0.025 ml

Store at -20 degrees C. Avoid freeze/thaw cycles.

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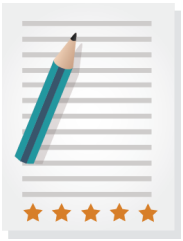
Updated 12/20/2023 v.20.1



NLS1878SS

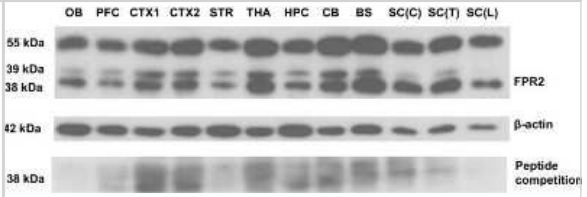
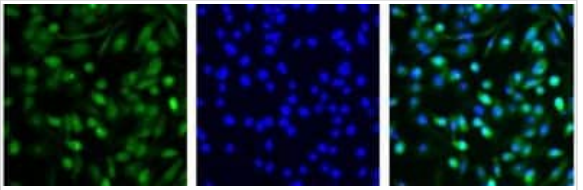
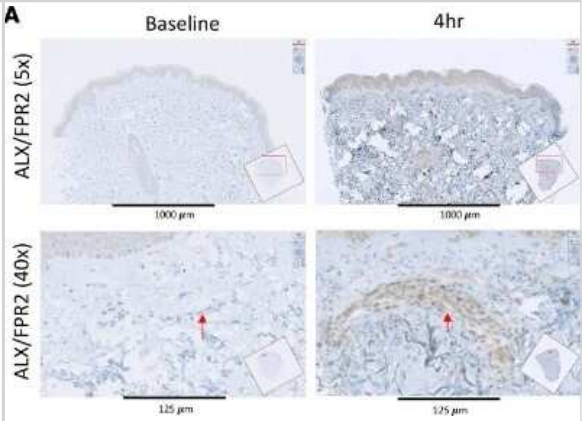
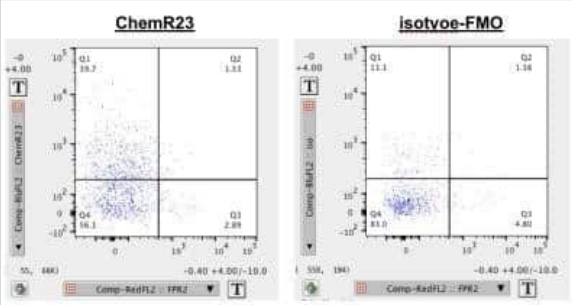
FPRL1/FPR2 Antibody - BSA Free

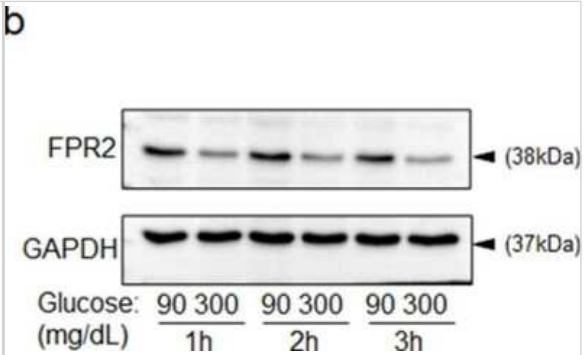
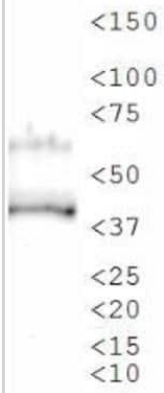
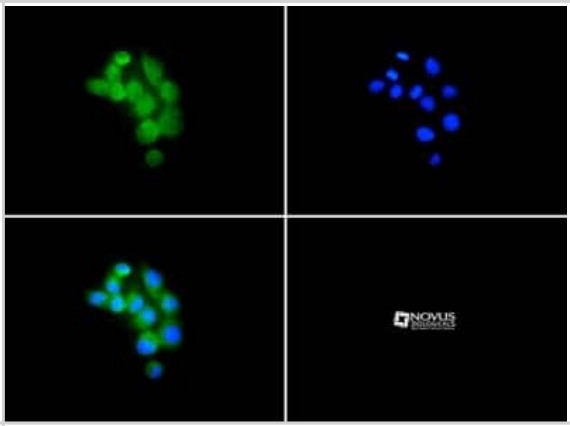
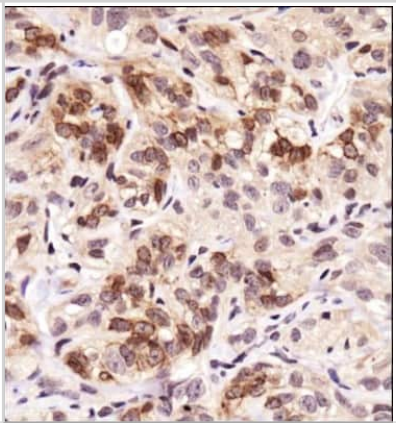
Product Information	
Unit Size	0.025 ml
Concentration	1.1 mg/ml
Storage	Store at -20 degrees C. Avoid freeze/thaw cycles.
Clonality	Polyclonal
Preservative	0.01% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS, 30% Glycerol
Target Molecular Weight	38 kDa

Product Description	
Host	Rabbit
Gene ID	2358
Gene Symbol	FPR2
Species	Human, Mouse, Rat, Bacteria
Reactivity Notes	Rat reactivity reported in scientific literature (PMID: 24086560). Bacteria reactivity reported in scientific literature (PMID: 31234710).
Immunogen	This FPRL1/FPR2 antibody is made to a synthetic peptide from the human FPRL1 protein (between residues 300-350) [UniProt P25090]

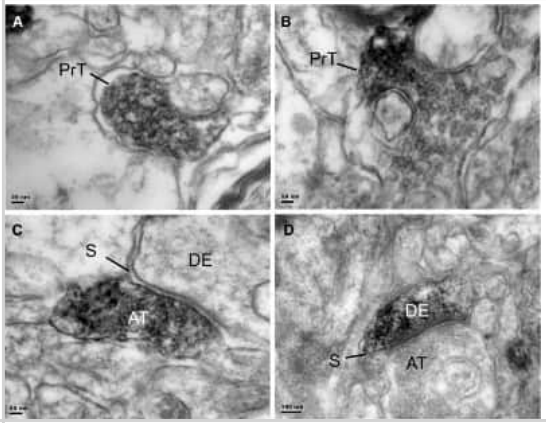
Product Application Details	
Applications	Western Blot, Electron Microscopy, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:1000, Flow Cytometry, Immunohistochemistry 1:300, Immunocytochemistry/ Immunofluorescence 1:20-1:75, Immunohistochemistry-Paraffin 1:300, Immunohistochemistry-Frozen reported in scientific literature (PMID 24086560), Electron Microscopy
Application Notes	In Western Blot, a band is seen ~38 kDa representing FPRL1. In ICC/IF, plasma membrane staining was observed in Raw264.7 cells. In IHC-P, staining was also observed in the plasma membrane of human kidney cancer tissue. Prior to immunostaining paraffin tissues, antigen retrieval with sodium citrate buffer (pH 6.0) is recommended. Customers have reported success in IF on FFPE mouse kidney tissue, following microwave antigen retrieval.

Images

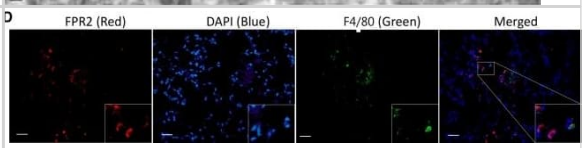
Western Blot: FPRL1/FPR2 Antibody - BSA Free [NLS1878] - Immunoblot of FPR2 protein in various parts of the rat brain including olfactory bulb (OB), prefrontal cortex (PFC), primary somatosensory cortex (CTX1), parietal association cortex and secondary auditory cortex (CTX2), striatum (STR), thalamus and hypothalamus (THA), hippocampus (HPC), cerebellum (CB), brainstem (BS), cervical spinal cord [SC(C)], thoracic spinal cord [SC(T)], and lumbar spinal cord [SC (L)]. Blots incubated with antigen-absorbed antibody i. e. peptide competition, show reduced band intensities. Image collected and cropped by Citeab from the following publication (Localisation of Formyl-Peptide Receptor 2 in the Rat Central Nervous System and Its Role in Axonal and Dendritic Outgrowth. *Neurochem Res* (2018)) licensed under a CC-BY license.	
Immunocytochemistry/Immunofluorescence: FPRL1/FPR2 Antibody - BSA Free [NLS1878] - Mouse J774A.1, mouse reticulum cell sarcoma macrophage cell line. Left panel is + Anti-Rabbit FITC; middle panel indicates the cell nuclei stained with Hoechst; the right panel is a merged image. ICC/IF image submitted by a verified customer review.	
Immunohistochemistry-Paraffin: FPRL1/FPR2 Antibody - BSA Free [NLS1878] - SPM receptors differentially expressed on endothelium and infiltrating leukocytes AE" ALX/FPR2 and ChemR23. Acute inflammation triggered by ventral aspect of forearm of healthy volunteers by intradermal injection of 1. 5 A-107 UV-killed E.coli (UVkEc) suspended in 100 i1/4l of saline. 4hrs after injection a 3-mm skin punch biopsy taken from inflamed site under local anesthesia. Naive skin treated as baseline. IHC-P on skin sections for receptor identification. Low mag(A-5) and high-mag (A-40) images at baseline and the 4 hr time point shown for ALX/FPR2. Red arrows highlight endothelium. Black arrow highlights infiltrating leukocytes. Image collected and cropped by Citeab from the (Pro-resolving mediators promote resolution in human skin model of UV-killed Escherichia coli-driven acute inflammation JCI Insight (2018)) licensed under, CC-BY license.	
Flow Cytometry: FPRL1/FPR2 Antibody - BSA Free [NLS1878] - Flow Cytometry: [Alexa Fluor® 700] [NLS1878AF700] - Mouse splenocytes. Cells were pre-gated with live/dead and FSC-A/W to exclude dead cells and cell doublets. Image from verified customer review. Image using the Alexa Fluor 700 form of this antibody.	

Western Blot: FPRL1/FPR2 Antibody - BSA Free [NLS1878] - Murine neutrophils were extracted from the bone marrow of C57BL/6 mice and exposed to normal glucose (90 mg/dl) or high glucose (300 mg/dl) and the expression of FPR2 was assessed by western blotting after 1, 2, or 3 hr exposure to glucose. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/35112667/) licensed under a CC-BY license.	
Western Blot: FPRL1/FPR2 Antibody - BSA Free [NLS1878] - Analysis in HL-60 cell lysate.	
Immunocytochemistry/Immunofluorescence: FPRL1/FPR2 Antibody - BSA Free [NLS1878] - Antibody was tested in Raw264.7 cells with DyLight 488 (green). Nuclei were counterstained with DAPI (blue).	
Immunohistochemistry: FPRL1/FPR2 Antibody - BSA Free [NLS1878] - Analysis in human kidney cancer using DAB with hematoxylin counterstain.	

Electron Microscopy: FPRL1/FPR2 Antibody - BSA Free [NLS1878] - Electron micrographs of FPR2 immunostained sections from the prefrontal cortex. Immunostaining is mostly present in axon pre-terminals (PrT) that did not form synapses with postsynaptic structures. Occasional labelled dendrites (DE) are also found, that formed asymmetrical synapses (S) with unlabelled axon terminals (AT). Scale: a, b, c=50A nm, e=100A nm. Image collected and cropped by Citeab from the following publication (Localisation of Formyl-Peptide Receptor 2 in the Rat Central Nervous System and Its Role in Axonal and Dendritic Outgrowth. Neurochem Res (2018)) licensed under a CC-BY license.

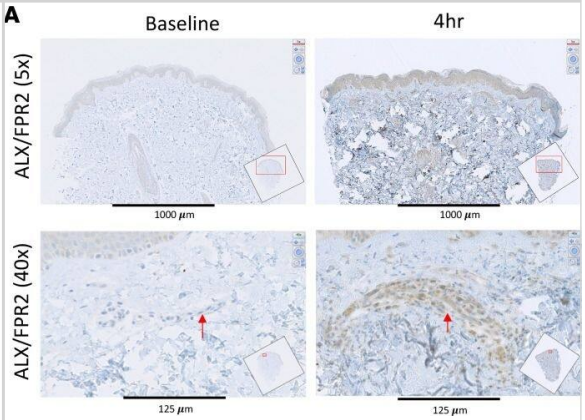


Lipoxin A4, along with its precursors and ligand, were altered by hAECs. (D): Representative images of F4/80- and FPR2-positive-stained lung sections from hAEC-treated animals. Magnification: x200. Scale bar =100 um. Abbreviations: DAPI, 4',6-diamidino-2-phenylindole; FPR2, N-formyl peptide receptor 2; hAEC, human amnion epithelial cell. Image collected and cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/28371562), licensed under a CC-BY licence.

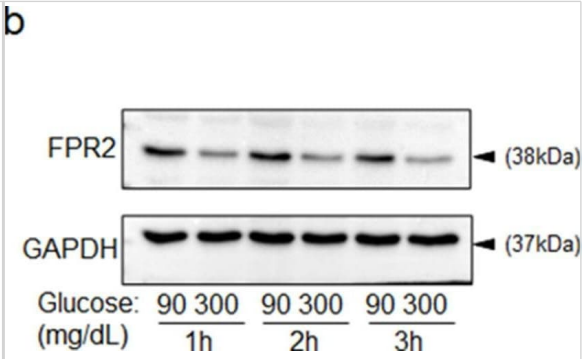


Higher expression of Fpr2 in the livers of female mice is related with hepatocyte protection. b) Western blot analysis of Fpr2 (red) with albumin (green) in these cells. Gapdh was used as internal control. Data shown represent one of three experiments with similar results. Image collected and cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/35102146), licensed under a CC-BY licence.

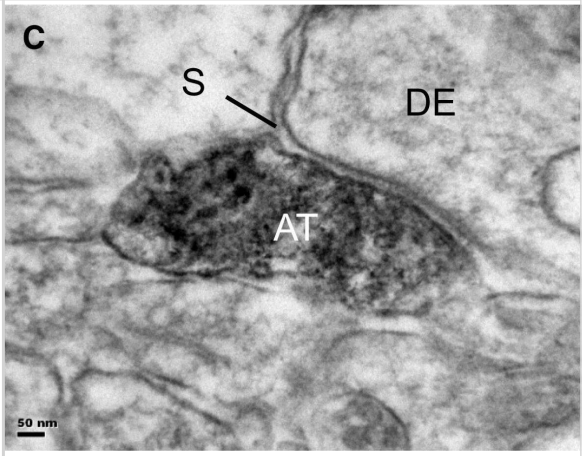
SPM receptors are differentially expressed on the endothelium and the infiltrating leukocytes - ALX/FPR2 and ChemR23.Acute inflammation was triggered in the ventral aspect of forearm of healthy volunteers by the intradermal injection of 1.5 x 107 UV-killed E. coli (UVkEc) suspended in 100 ul of sterile saline. Four hours after injection, a 3-mm skin punch biopsy was taken from the inflamed site under local anesthesia. Naive skin was treated as baseline. Formalin-fixed paraffin-embedded skin sections were probed by immunohistochemistry for receptor identification. Low-magnification (x5) and high-magnification (x40) images at baseline and at the 4-hour time point are shown here for ALX/FPR2 (A) and ChemR23 (B). Red arrows highlight the endothelium and black arrow highlights the infiltrating leukocytes. Representative images from n = 3. SPM, specialized pro-resolving mediator. Image collected and cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29563331), licensed under a CC-BY licence.



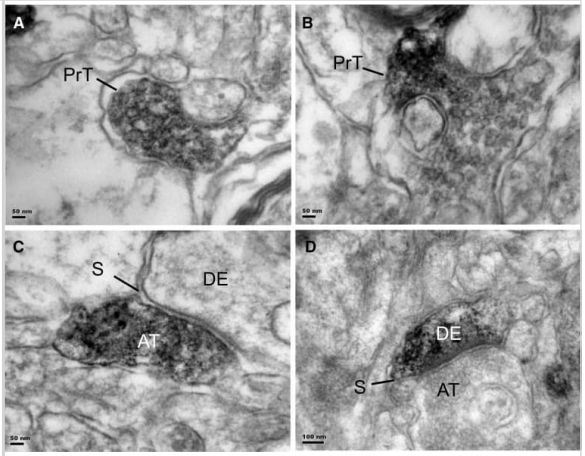
Exposure to high glucose dampens the expression of FPR2 in neutrophils.(a-c) Murine neutrophils were extracted from the bone marrow of C57BL/6 mice and exposed to normal glucose (90 mg/dl) or high glucose (300 mg/dl) and the expression of FPR2 was assessed by RT-PCR (a), or by western blotting (b-c) after 1, 2, or 3 hr exposure to glucose. Data are plotted as Mean +/- SEM. (N >= 3 for RT-PCR and N = 4 for Western blotting. ns = not significant, *p < 0.05, **p < 0.01, ***p < 0.001. Statistical analyses between groups were conducted by One-way ANOVA with additional post hoc testing, and pair-wise comparisons between groups were performed or by unpaired Student's t-test).Figure 2-figure supplement 3-source data 1.Related to Figure 2-figure supplement 3a.Figure 2-figure supplement 3-source data 2.Related to Figure 2-figure supplement 3b.Figure 2-figure supplement 3-source data 3.Related to Figure 2-figure supplement 3c.Related to Figure 2-figure supplement 3a.Related to Figure 2-figure supplement 3b.Related to Figure 2-figure supplement 3c. Image collected and cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/35112667), licensed under a CC-BY licence.



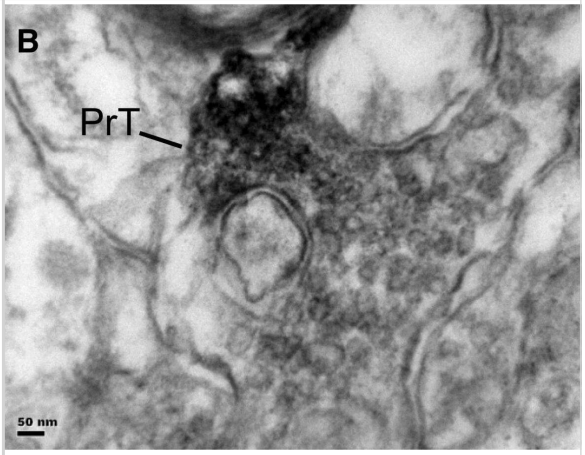
Quantification of MAOB, HiF-1α, and GFAP levels in gliomas(A) Relative levels of MAOB in normal brain, five anaplastic astrocytomas (AA), a geministic astrocytoma (Gem), an astroblastoma (Ablast), and 20 GBM tumors, with the GBM tumors arranged from lowest to highest signal. The same left-right arrangement of GBM tumors is also used in (B) and (C). (B) Relative levels of HiF-1α. (C) Relative levels of GFAP. (D) Correlation between MAOB and HiF-1α in gliomas and GBMs. (E) Correlation between MAOB and GFAP in gliomas and GBMs. (F) Correlation between HiF-1α and GFAP. The coefficient of determination, R2, and p values are shown on all correlation plots. All points are mean ± SD, with n = 4 for tumor samples and n = 12 for the control brain samples. Image collected and cropped by CiteAb from the following open publication (https://www.oncotarget.com/lookup/doi/10.18632/oncotarget.6582), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



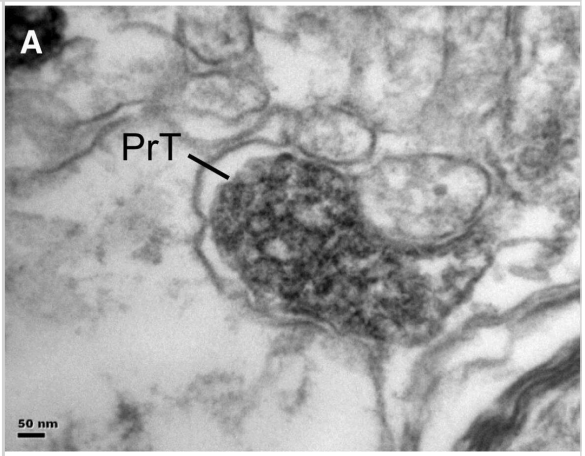
Effect of HIF-1α silencing on α-MSH-induced apoptosis in B16-F10 melanoma cells during hypoxia.a Cells were transfected with shLacZ or shHIF-1α plasmids for 48 h before harvest. HIF-1α shRNA reduced the basal HIF-1α mRNA and protein expression levels. b, c Relative mRNA expression levels were analyzed by real-time PCR. Data are expressed as fold change compared with control (means ± SD of triplicate experiments). d Cell lysates were analyzed by immunoblot using the indicated antibodies. β-Actin was used as an internal control for loading and transfer. e The population of apoptotic cells was analyzed by flow cytometry and qualified as mean ± SD from triplicate experiments. *p < 0.05, **p < 0.01. Knockdown of HIF-1α diminished α-MSH-induced apoptosis in B16-F10 melanoma cells during hypoxia Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/30062060), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Inhibition of DNA-PK prevents monoubiquitination of H2AX and H2A in CPT-treated quiescent WI38 hTERT cells. (A–E) Serum-starved cells were treated with DMSO or DNA-PKi (10 μM) for 1 h before the addition of DMSO (untreated) or CPT (25 μM) for 1 h. (A) Western blot of γH2AX. +Ub1 indicates γH2AX monoubiquitinated. The top panel shows quantification of Ub1-γH2AX normalized to αTubulin (means ± SEM, n = 4). **P < 0.01. (B and C) Cells were pre-extracted with CSK buffer before co-staining for Ub-H2A (red) and 53BP1 phosphorylated on S1778 (p53BP1) (green). (B) Representative pictures. Images were merged to determine colocalization (yellow). The large Ub-H2AX focus at the periphery of the nuclei of untreated and CPT-treated cells may marks the inactive X chromosome as reported (91). (C) Percentages of nuclei with at least 5 Ub-H2A foci (means ± SEM, n = 3, 100 nuclei were analyzed for each treatment in each experiment). ***P < 0.001. (D and E) Cells were co-stained for ubiquitinated proteins (FK2, red) and γH2AX (green). (D) Representative pictures. Images were merged to determine colocalization (yellow). (E) Number of FK2 foci per nucleus from one representative experiment (76–111 nuclei were analyzed for each treatment) out of three. ****P < 0.0001. In the microscopic images, nuclear contours, identified by DAPI staining (blue in the merge images at bottom), are indicated by dashed lines. Bars: 10 μm. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/26578593), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



TERRA and telomere transcription in ALT cells.(a) TERRA northern blot hybridizations of RNA from the indicated cell lines (VA13: WI-38 VA13; 1.2.11: HeLa 1.2.11) pre-treated with RNaseA or left untreated. Ethidium bromide stained 18S ribosomal RNA (rRNA) is shown to control for loading. Long TERRA molecules comprised between the wells of the gels (w) and 28S rRNA are indicated. (b) TERRA CpG-island promoter methylation analysis of the indicated cell lines. Genomic DNA was digested with the methylation sensitive restriction enzyme MspI or its methylation insensitive isoschizomer HpaII. DNA was hybridized using a radioactively labelled probe detecting TERRA promoter CpG-island repeats. Nomet: fragments corresponding to unmethylated restriction products. (c) Dot blot hybridization of DNA immunoprecipitated with antibodies against phosphorylated Serines S2 and S5 of RNA polymerase II C-terminal domain. Hybridizations were performed with a telomeric probe. Quantifications are shown at the bottom. (d) Bars and error bars are averages and s.d. from three independent experiments. (e) Examples of TERRA FISH in the indicated cells. TERRA is shown in red, DAPI-stained DNA in blue. Scale bar, 9 μm. (f) IF/FISH experiments in the indicated cell lines. TERRA is in red, TRF2 in green and PML in blue. In the merge panels, arrowheads point to nuclear foci where the three factors co-localize. Scale bar, 9 μm. (g) Information surface at 0.01 μm detail level of three TERRA-containing APBs. TERRA is in red, TRF2 in green and PML in cyan. Images were generated with Three-Dimensional Structured Illumination Microscopy (3D-SIM). Scale bars, 0.4 μm. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/25330849), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Zhu M, Wang Y, Zhu L et al. Crosstalk between RPE cells and choroidal endothelial cells via the ANXA1/FPR2/SHP2/NLRP3 inflammasome/pyroptosis axis promotes choroidal neovascularization Inflammation 2021 -10-01 [PMID: 34595678]

Federica Frigerio, Giulia Pasqualini, Ilaria Craparotta, Sergio Marchini, Erwin A van Vliet, Patrick Foerch, Catherine Vandenplas, Karin Leclercq, Eleonora Aronica, Luca Porcu, Kimberly Pistorius, Romain A Colas, Trond V Hansen, Mauro Perretti, Rafal M Kaminski, Jesmond Dalli, Annamaria Vezzani n-3 Docosapentaenoic acid-derived protectin D1 promotes resolution of neuroinflammation and arrests epileptogenesis Brain 2018-11-01 [PMID: 30307467]

R Roy, J Zayas, SK Singh, K Delgado, SJ Wood, MF Mohamed, DM Frausto, YA Albalawi, TP Price, R Estupinian, EF Giurini, TM Kuzel, A Zloza, J Reiser, SH Shafikhani Overriding impaired FPR chemotaxis signaling in diabetic neutrophil stimulates infection control in murine diabetic wound Elife, 2022-02-03;11(0):. 2022-02-03 [PMID: 35112667]

YE Kim, SY Ahn, DK Sung, YS Chang, WS Park Mesenchymal Stem Cells and Formyl Peptide Receptor 2 Activity in Hyperoxia-Induced Lung Injury in Newborn Mice International Journal of Molecular Sciences, 2022-09-13;23(18):. 2022-09-13 [PMID: 36142517]

C Lee, J Kim, J Han, D Oh, M Kim, H Jeong, TJ Kim, SW Kim, JN Kim, YS Seo, A Suzuki, JH Kim, Y Jung Formyl peptide receptor 2 determines sex-specific differences in the progression of nonalcoholic fatty liver disease and steatohepatitis Nature Communications, 2022-01-31;13(1):578. 2022-01-31 [PMID: 35102146]

Studley WR, Lamanna E, Martin KA et al. The small-molecule formyl peptide receptor biased agonist, compound 17b, is a vasodilator and anti-inflammatory in mouse precision-cut lung slices British journal of pharmacology 2023-09-01 [PMID: 37658546] (IHC-P, Mouse)

Li L, Cheng SQ, Sun YQ et al. Resolvin D1 reprograms energy metabolism to promote microglia to phagocytize neutrophils after ischemic stroke Cell reports 2023-06-06 [PMID: 37285269] (IHC, WB, Mouse)

Liu M, He H, Fan F et al. Maresin-1 protects against pulmonary arterial hypertension by improving mitochondrial homeostasis through ALXR/HSP90? axis Journal of molecular and cellular cardiology 2023-05-25 [PMID: 37244057] (WB, Rat)

Liu L, Kim S, Buckley MT et al. Exercise reprograms the inflammatory landscape of multiple stem cell compartments during mammalian aging Cell stem cell 2023-04-13 [PMID: 37080206] (IHC, Mouse)

Tang D, Fu G, Li W et al. Maresin 1 Protects the Liver Against Ischemia/Reperfusion Injury via the ALXR/Akt Signaling Pathway Mol Med 2021-02-26 [PMID: 33632134]

Kim SY, Kim JM, Lee SR et al. Efferocytosis and enhanced FPR2 expression following apoptotic cell instillation attenuate radiation-induced lung inflammation and fibrosis Biochemical and biophysical research communications 2022-02-21 [PMID: 35228119] (WB)

Jun JH, Park S, Kim JY et al. Combination Therapy of Placenta-Derived Mesenchymal Stem Cells with WKYMVm Promotes Hepatic Function in a Rat Model with Hepatic Disease via Vascular Remodeling Cells 2022-01-11 [PMID: 35053347] (ICC/IF)

More publications at http://www.novusbio.com/NLS1878

Procedures

Immunohistochemistry-Paraffin protocol for FPRL1 Antibody (NLS1878)

Immunohistochemistry-Paraffin Embedded Sections

Antigen Unmasking:
Bring slides to a boil in 10 mM sodium citrate buffer (pH 6.0) then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench-top for 30 minutes.

Staining:
1. Wash sections in deionized water three times for 5 minutes each.
2. Wash sections in wash buffer for 5 minutes.
3. Block each section with 100-400 ul blocking solution for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul diluted primary antibody. Incubate overnight at 4 C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul biotinylated diluted secondary antibody. Incubate 30 minutes at room temperature.
7. Remove secondary antibody solution and wash sections three times with wash buffer for 5 minutes each.
8. Add 100-400 ul Streptavidin-HRP reagent to each section and incubate for 30 minutes at room temperature.
9. Wash sections three times in wash buffer for 5 minutes each.
10. Add 100-400 ul DAB substrate to each section and monitor staining closely.
11. As soon as the sections develop, immerse slides in deionized water.
12. Counterstain sections in hematoxylin.
13. Wash sections in deionized water two times for 5 minutes each.
14. Dehydrate sections.
15. Mount coverslips.

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

Western Blot protocol for FPRL1 Antibody (NLS1878)

Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 40 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 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%.

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

Immunocytochemistry/Immunofluorescence Protocol for FPRL1 Antibody (NLS1878)
Immunocytochemistry Protocol

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

1. Remove culture medium and wash the cells briefly in PBS. Add 10% formalin to the dish and fix at room temperature for 10 minutes.
2. Remove the formalin and wash the cells in PBS.
3. Permeablize the cells with 0.1% Triton X100 or other suitable detergent for 10 min.
4. Remove the permeablization buffer and wash three times for 10 minutes each in PBS. Be sure to not let the specimen dry out.
5. To block nonspecific antibody binding, incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
6. Add primary antibody at appropriate dilution and incubate overnight at 4C.
7. Remove primary antibody and replace with PBS. Wash three times for 10 minutes each.
8. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
9. Remove secondary antibody and replace with PBS. Wash three times for 10 minutes each.
10. Counterstain DNA with DAPi if required.

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