SANTA CRUZ BIOTECHNOLOGY, INC.

FPR (R-16): sc-13196

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The N-formyl peptide receptor (FPR) is a chemotactic G protein-coupled receptor (GPCR) that is found on the surface of phagocytic leukocytes, such as neutrophils and monocytes. The human FPR family comprises three members, FPR, FPRL1 (also designated lipoxin A4 receptor) and FPRL2, and each family member contains specific residues, which are responsible for determining its ligand specificity. FPR, a seven transmembrane-domain receptor, primarily binds the chemoattractant N-formyl-methionyl-leucyl-phenylalanine (fMLP), which activates several biological processes, including chemotaxis, transcriptional activation, and actin reorganization. FPR also mediates the inhibition of neutrophil migration through binding to specific peptide fragments of annexin I, which causes calcium transients and affects inflammatory responses.

REFERENCES

1. Jesaitis, A.J. and Klotz, K.N. 1993. Cytoskeletal regulation of chemotactic receptors: molecular complexation of N-formyl peptide receptors with G proteins and actin. Eur. J. Haematol. 51: 288-293.
2. Gao, J.L. and Murphy, P.M. 1993. Species and subtype variants of the N-formyl peptide chemotactic receptor reveal multiple important functional domains. J. Biol. Chem. 268: 25395-25401.
3. Belisle, B. and Abo, A. 2000. N-formyl peptide receptor ligation induces Rac-dependent actin reorganization through $G_{\beta\gamma}$ subunits and class IA phosphoinositide 3-kinase. J. Biol. Chem. 275: 16225-16232.
4. Mills, J.S., et al. 2000. Characterization of the binding site on the formyl peptide receptor using three receptor mutants and analogs of met-leu-phe and met-met-trp-leu-leu. J. Biol. Chem. 275: 39012-39017.
5. Shen, W., et al. 2000. Down-regulation of the chemokine receptor CCR5 by activation of chemotactic formyl peptide receptor in human monocytes. Blood 96: 2887-2894.
6. He, R., et al. 2000. The synthetic peptide trp-lys-tyr-met-val-D-met is a potent chemotactic agonist for mouse formyl peptide receptor. J. Immunol. 165: 4598-4605.
7. Walther, A., et al. 2000. A novel ligand of the formyl peptide receptor: Annexin I regulates neutrophil extravasation by interacting with the FPR. Mol. Cell 5: 831-840.

CHROMOSOMAL LOCATION

Genetic locus: Fpr1 (mouse) mapping to 17 A3.2.

SOURCE

FPR (R-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FPR of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13196 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FPR (R-16) is recommended for detection of FPR of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FPR siRNA (m): sc-40122, FPR shRNA Plasmid (m): sc-40122-SH and FPR shRNA (m) Lentiviral Particles: sc-40122-V.

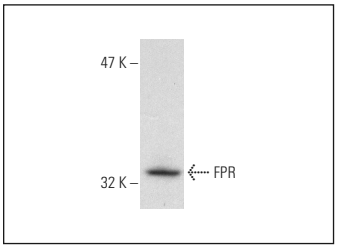
Molecular Weight of FPR: 38 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



FPR (R-16): sc-13196. Western blot analysis of FPR expression in RAW 264.7 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Chen, A.Y., et al. 2010. Receptor cleavage reduces the fluid shear response in neutrophils of the spontaneously hypertensive rat. Am. J. Physiol., Cell Physiol. 299: C1441-C1449.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.