



FPR3 siRNA (h): sc-45643

BACKGROUND

The N-formyl peptide receptor (FPR) family is comprised of three members, FPR, FPR3 (also designated FPRL1, lipoxin A4 receptor, FPRH1 or FPR2) and FPR like-2 (FPRL2), all of which are chemotactic G protein-coupled receptors that contain seven transmembrane domains. These receptors are found on the surface of phagocytic leukocytes, such as neutrophils and monocytes, and each family member contains specific residues, which are responsible for determining its ligand specificity. FPR3 is a promiscuous receptor that binds to several ligands, including lipoxin A4, N-formyl-methionyl-leucyl-phenylalanine (fMLP), serum amyloid A (SAA), prion peptide and the 42 amino acid form of β amyloid. Upon activation, FPR3 induces migration and calcium mobilization in human monocytes and neutrophils and is involved in inflammatory and host defense responses. FPR3 may mediate inflammation in prion and Alzheimer's diseases, which makes it a potential target for therapeutic agents.

REFERENCES

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- Alvarez, V., et al. 1996. Molecular evolution of the N-formyl peptide and C5a receptors in non-human primates. *Immunogenetics* 44: 446-452.
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- Yang, D., et al. 2002. Human dendritic cells express functional formyl peptide receptor-like 2 (FPRL2) throughout maturation. *J. Leukoc. Biol.* 72: 598-607.
- Harada, M., et al. 2004. N-formylated humanin activates both formyl peptide receptor-like 1 and 2. *Biochem. Biophys. Res. Commun.* 324: 255-261.
- Migeotte, I., et al. 2005. Identification and characterization of an endogenous chemotactic ligand specific for FPRL2. *J. Exp. Med.* 201: 83-93.

CHROMOSOMAL LOCATION

Genetic locus: FPR3 (human) mapping to 19q13.41.

PRODUCT

FPR3 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FPR3 shRNA Plasmid (h): sc-45643-SH and FPR3 shRNA (h) Lentiviral Particles: sc-45643-V as alternate gene silencing products.

For independent verification of FPR3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-45643A, sc-45643B and sc-45643C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

FPR3 siRNA (h) is recommended for the inhibition of FPR3 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FPR3 gene expression knockdown using RT-PCR Primer: FPR3 (h)-PR: sc-45643-PR (20 μ l, 502 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Gjolberg, T.T., et al. 2022. Biophysical differences in IgG₁ Fc-based therapeutics relate to their cellular handling, interaction with FcRn and plasma half-life. *Commun. Biol.* 5: 832.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.