



C5L2 siRNA (h): sc-105165

BACKGROUND

Anaphylatoxin, a chemotactic and inflammatory peptide, is a receptor for C5a anaphylatoxin chemotactic receptor (C5L2), also designated G protein-coupled receptor 77. C5L2 is an integral membrane protein that belongs to the G protein-coupled receptor 1 family. C5L2 weakly couples to G_i-mediated signaling pathways and is widely expressed in the hippocampus, hypothalamus, pons, frontal cortex and liver. It is coexpressed with the C5a receptor (C5AR) on polymorphonuclear neutrophils and may modulate the activity of C5AR. The function of the C5a receptors, particularly that of C5L2, is still unclear. Research suggests that C5L2 may be required for the *in vitro* release of high mobility group box 1 protein (HMGB1).

REFERENCES

1. Cain, S.A. and Monk, P.N. 2002. The orphan receptor C5L2 has high affinity binding sites for complement fragments C5a and C5a des-Arg⁷⁴. *J. Biol. Chem.* 277: 7165-7169.
2. Okinaga, S., et al. 2003. C5L2, a nonsignaling C5a binding protein. *Biochemistry* 42: 9406-9415.
3. Otto, M., et al. 2004. C5a mutants are potent antagonists of the C5a receptor (CD88) and of C5L2: position 69 is the locus that determines agonism or antagonism. *J. Biol. Chem.* 279: 142-151.
4. Gavriluk, V., et al. 2005. Identification of complement 5a-like receptor (C5L2) from astrocytes: characterization of anti-inflammatory properties. *J. Neurochem.* 92: 1140-1149.

CHROMOSOMAL LOCATION

Genetic locus: C5AR2 (human) mapping to 19q13.32.

PRODUCT

C5L2 siRNA (h) is a pool of 2 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 C5L2 shRNA Plasmid (h): sc-105165-SH and C5L2 shRNA (h) Lentiviral Particles: sc-105165-V as alternate gene silencing products.

For independent verification of C5L2 (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-105165A and sc-105165B.

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

C5L2 siRNA (h) is recommended for the inhibition of C5L2 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.

GENE EXPRESSION MONITORING

C5L2 (E-8): sc-515734 is recommended as a control antibody for monitoring of C5L2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor C5L2 gene expression knockdown using RT-PCR Primer: C5L2 (h)-PR: sc-105165-PR (20 μ l, 509 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chmielewsky, F., et al. 2018. C5L2 silencing in human pulp fibroblasts enhances nerve outgrowth under lipoteichoic acid stimulation. *J. Endod.* 44: 1396-1401.
2. Irfan, M. and Chung, S. 2023. C5L2 modulates BDNF production in human dental pulp stem cells via p38 α pathway. *Sci. Rep.* 13: 74.
3. Irfan, M., et al. 2025. RNA sequencing reveals key factors modulating TNF α -stimulated odontoblast-like differentiation of dental pulp stem cells. *bioRxiv*. E-published.

RESEARCH USE

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