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# CS1 siRNA (m): sc-45752

## BACKGROUND

CS1, also known as novel Ly9, SLAMF7, 19A24 or CRACC, is a homophilic cell surface receptor. It is a member of the SLAM (signaling lymphocytic activation molecule) family of receptors expressed on natural killer (NK) cells, T cells and stimulated B cells. CS1 contains immunoreceptor tyrosine-based switch motifs in its cytoplasmic domain but, unlike other SLAM receptors, it does not recruit SAP (SLAM-associated protein). In humans, CS1 activates NK cells through an EAT-2-mediated pathway that is SAP-independent. CS1 recruits and associates with EAT-2, a protein closely related to SAP. EAT-2 induces phosphorylation of CS1 which then, upon ligand binding, activates downstream cytotoxicity effectors PLC $\gamma$  and PI 3-kinase. In mice, the EAT-2 association with CS1 has an inhibitory effect on the activation of NK cells.

## REFERENCES

- Freeman, G.J., et al. 1991. Structure, expression, and T cell costimulatory activity of the murine homologue of the human B lymphocyte activation antigen B7. *J. Exp. Med.* 174: 625-631.
- Cocks, B.G., et al. 1995. A novel receptor involved in T cell activation. *Nature* 376: 260-263.
- Aversa, G., et al. 1997. SLAM and its role in T cell activation and Th cell responses. *Immunol. Cell Biol.* 75: 202-205.
- Aversa, G., et al. 1997. Engagement of the signaling lymphocytic activation molecule (SLAM) on activated T cells results in IL-2-independent, cyclosporin A-sensitive T cell proliferation and IFN- $\gamma$  production. *J. Immunol.* 158: 4036-4044.
- Favero, J., et al. 1998. Effector pathways regulating T cell activation. *Biochem. Pharmacol.* 56: 1539-1547.
- Sayos, J., et al. 1998. The X-linked lymphoproliferative-disease gene product SAP regulates signals induced through the co-receptor SLAM. *Nature* 395: 462-469.

## CHROMOSOMAL LOCATION

Genetic locus: Slamf7 (mouse) mapping to 1 H3.

## PRODUCT

CS1 siRNA (m) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CS1 shRNA Plasmid (m): sc-45752-SH and CS1 shRNA (m) Lentiviral Particles: sc-45752-V as alternate gene silencing products.

For independent verification of CS1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-45752A, sc-45752B and sc-45752C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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

## APPLICATIONS

CS1 siRNA (m) is recommended for the inhibition of CS1 expression in mouse 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  $\mu$ M in 66  $\mu$ 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

CS1 (162.1): sc-53577 is recommended as a control antibody for monitoring of CS1 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CS1 gene expression knockdown using RT-PCR Primer: CS1 (m)-PR: sc-45752-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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