SANTA CRUZ BIOTECHNOLOGY, INC.

CYTIP siRNA (m): sc-62187

BACKGROUND

CYTIP, also known as PSCDBP (pleckstrin homology, Sec7 and coiled-coil domains, binding protein), CASP or CYBR, is a cytoplasmic protein that is involved in lymphocytic cell adhesion. Expressed primarily in hematopoetic cells, CYTIP regulates the activity of cytohesin-1 (an integrin-activating protein involved in cell adhesion) by mediating its recruitment to the leukocyte membrane. Through its ability to bind cytohesin-1, CYTIP is able to sequester it to the cytoplasm, thereby preventing cytohesin-1 translocation to lymphocytes and interrupting the flow of information in the cell adhesion pathway. CYTIP can be recruited from the cytoplasm to the membrane by leukocyte integrins which interact with CYTIP through its PDZ domain. After membrane translocation, CYTIP can be re-located to the cytoplasm via exposure to a phorbol ester. Additionally, CYTIP associates with SNX27 (sorting nexin 27) and helps to coordinate trafficking and signaling complexes. Up-regulation of CYTIP is observed in maturing dendritic cells, suggesting a possible role in developmentally-controlled cell adhesion.

REFERENCES

1. Kim, H.S. 1999. Assignment of the human B3-1 gene (PSCDBP) to chromosome 2 band q11.2 by radiation hybrid mapping. Cytogenet. Cell Genet. 84: 95.
2. Tang, P., et al. 2002. Cybr, a cytokine-inducible protein that binds cytohesin-1 and regulates its activity. Proc. Natl. Acad. Sci. USA 99: 2625-2629.
3. Boehm, T., et al. 2003. Attenuation of cell adhesion in lymphocytes is regulated by CYTIP, a protein which mediates signal complex sequestration. EMBO J. 22: 1014-1024.
4. Chen, Q., et al. 2006. Cytohesin binder and regulator augments T cell receptor-induced nuclear factor of activated T cells. AP-1 activation through regulation of the JNK pathway. J. Biol. Chem. 281: 19985-19994.
5. Watford, W.T., et al. 2006. Cytohesin binder and regulator (cybr) is not essential for T- and dendritic-cell activation and differentiation. Mol. Cell. Biol. 26: 6623-6632.

CHROMOSOMAL LOCATION

Genetic locus: Cytip (mouse) mapping to 2 C1.1.

PRODUCT

CYTIP 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CYTIP shRNA Plasmid (m): sc-62187-SH and CYTIP shRNA (m) Lentiviral Particles: sc-62187-V as alternate gene silencing products.

For independent verification of CYTIP (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-62187A, sc-62187B and sc-62187C.

PROTOCOLS

See our web site at 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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CYTIP siRNA (m) is recommended for the inhibition of CYTIP 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 µM in 66 µl. 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

CYTIP (H-6): sc-390857 is recommended as a control antibody for monitoring of CYTIP 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 CYTIP gene expression knockdown using RT-PCR Primer: CYTIP (m)-PR: sc-62187-PR (20 µl). 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.