SANTA CRUZ BIOTECHNOLOGY, INC.

OCIL siRNA (m): sc-72014

BACKGROUND

Osteoclast inhibitory lectin (OCIL) is a type II membrane-bound C-type lectin that binds natural killer cell-associated receptors NKR-P1D and sulfated glycosaminoglycans. Expressed in osteoblasts, chondrocytes and also a variety of extraskeletal tissues, OCIL inhibits multinucleate osteoclast differentiation and function through the binding of its cognate receptor NKR-P1D. OCIL also prohibits primary osteoblast and KUSA O cell associated natural killer cell-mediated cytotoxicity and mineralization. OCIL mRNA expression acts directly on macrophage cells by devastating stromal and lymphocytic cells. Osteoblast OCIL mRNA expression magnifies through exposure to parathyroid hormone, calcitriol, retinoic acid, IL-1 and IL-11. OCIL may affect mesenchymal lineage in ways that may be necessary for bone metabolism and the function of other connective tissues.

REFERENCES

1. Zhou, H., et al. 2001. A novel osteoblast-derived C-type lectin that inhibits osteoclast formation. J. Biol. Chem. 276: 14916-14923.
2. Zhou, H., et al. 2002. Osteoclast inhibitory lectin, a family of new osteoclast inhibitors. J. Biol. Chem. 277: 48808-48815.
3. Carlyle, J.R., et al. 2004. Missing self-recognition of OCIL/Clr-b by inhibitory NKR-P1 natural kill cell receptors. Proc. Nat. Acad. Sci. USA 101: 3527-3532.
4. Gange, C.T., et al. 2004. Characterization of sugar binding by osteoclast inhibitory lectin. J. Biol. Chem. 279: 29043-29049.
5. Hu, Y.S., et al. 2004. Isolation of a human homolog of osteoclast inhibitory lectin that inhibits the formation and function of osteoclasts. J. Bone Miner. Res. 19: 89-99.
6. Peirce, M.J., et al. 2004. Expression profiling of lymphocyte plasma membrane proteins. Mol. Cell. Proteomics 3: 56-65.
7. Nakamura, A., et al. 2007. Osteoclast inhibitory lectin (OCIL) inhibits osteoblast differentiation and function *in vitro*. Bone 40: 305-315.

CHROMOSOMAL LOCATION

Genetic locus: Clec2d (mouse) mapping to 6 F3.

PRODUCT

OCIL 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 OCIL shRNA Plasmid (m): sc-72014-SH and OCIL shRNA (m) Lentiviral Particles: sc-72014-V as alternate gene silencing products.

For independent verification of OCIL (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-72014A, sc-72014B and sc-72014C.

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

OCIL siRNA (m) is recommended for the inhibition of OCIL 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

OCIL (166C1309): sc-52905 is recommended as a control antibody for monitoring of OCIL 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 OCIL gene expression knockdown using RT-PCR Primer: OCIL (m)-PR: sc-72014-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.