SANTA CRUZ BIOTECHNOLOGY, INC.

ABLIM2 siRNA (h): sc-89008

BACKGROUND

The *C. elegans* protein UNC-115 mediates axon guidance by modulating the growth cone Actin cytoskeleton in response to signals received by growth cone receptors. The mammalian homolog of UNC-115 is the Actin-binding LIM protein family member 1 (ABLIM1, also designated Limatin). The ABLIM1 protein has an N-terminal domain that contains four double zinc finger motifs, which conform to the LIM motif consensus sequence. ABLIM1 binds to F-Actin through a dematin-like domain and is expressed in retina, brain and muscle tissue. There are four known isoforms of ABLIM1. The gene encoding ABLIM1 maps to a region of chromosome 10q25.3 associated with frequent loss of heterozygosity in human tumors, thus identifying ABLIM1 as a candidate tumor suppressor gene. ABLIM2 and ABLIM3 show highest expression in muscle and neuronal tissues, bind to F-Actin, and are localized on stress fibers. They also have been shown to enhance STARS (striated muscle activator of Rho signaling) dependent activation of serum-response factor (SRF), thereby modulating transcription.

REFERENCES

1. Kim, A.C., et al. 1997. Limatin (LIMAB1), an Actin-binding LIM protein, maps to mouse chromosome 19 and human chromosome 10q25, a region frequently deleted in human cancers. Genomics 46: 291-293.
2. Roof, D.J., et al. 1997. Molecular characterization of ABLIM, a novel Actin-binding and double zinc finger protein. J. Cell Biol. 138: 575-588.
3. Lundquist, E.A., et al. 1998. UNC-115, a conserved protein with predicted LIM and Actin-binding domains, mediates axon guidance in *C. elegans*. Neuron 21: 385-392.
4. Lu, C., et al. 2003. Normal retinal development and retinofugal projections in mice lacking the retina-specific variant of Actin-binding LIM domain protein. Neuroscience 120: 121-131.
5. Yang, Y. and Lundquist, E.A. 2005. The Actin-binding protein UNC-115/abLIM controls formation of lamellipodia and filopodia and neuronal morphogenesis in *Caenorhabditis elegans*. Mol. Cell. Biol. 25: 5158-5170.
6. Barrientos, T., et al. 2007. Two novel members of the ABLIM protein family, ABLIM-2 and -3, associate with STARS and directly bind F-Actin. J. Biol. Chem. 282: 8393-8403.

CHROMOSOMAL LOCATION

Genetic locus: ABLIM2 (human) mapping to 4p16.1.

PRODUCT

ABLIM2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ABLIM2 shRNA Plasmid (h): sc-89008-SH and ABLIM2 shRNA (h) Lentiviral Particles: sc-89008-V as alternate gene silencing products.

For independent verification of ABLIM2 (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-89008A, sc-89008B and sc-89008C.

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

ABLIM2 siRNA (h) is recommended for the inhibition of ABLIM2 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ABLIM2 gene expression knockdown using RT-PCR Primer: ABLIM2 (h)-PR: sc-89008-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.

PROTOCOLS

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