SANTA CRUZ BIOTECHNOLOGY, INC.

BOC siRNA (m): sc-72162

BACKGROUND

BOC (brother of CDO precursor) is a receptor-like, single pass membrane protein belonging to the cell surface molecule subfamily of the Immunoglobulin/fibronectin type-III repeat family within the immunoglobulin superfamily. It contains three fibronectin type-III domains and four Immunoglobulin-like C2-type domains in its extracellular region. The intracellular region of BOC is not required for proper function. BOC localizes to the cell membrane and is ubiquitously expressed with highest expression levels in skeletal muscle and small intestine. Its mRNA expression is down-regulated by Ras. BOC is involved in accelerating myoblast differentiation and is dependent on CDO for its activity. BOC and CDO are co-expressed in muscle precursors and are components of a receptor complex that mediates cell-cell interactions important in myogenesis. Overexpression of BOC results in enhanced differentiation of myoblast cells. In addition, BOC is a target and signaling component of the Shh pathway.

REFERENCES

1. Kang, J.S., et al. 2002. BOC, an Ig superfamily member, associates with CDO to positively regulate myogenic differentiation. EMBO J. 21: 114-124.
2. Mulieri, P.J., et al. 2002. Expression of the BOC gene during murine embryogenesis. Dev. Dyn. 223: 379-388.
3. Wegorzewska, M., et al. 2003. Overexpression of the immunoglobulin superfamily members CDO and BOC enhances differentiation of the human rhabdomyosarcoma cell line RD. Mol. Carcinog. 37: 1-4.
4. Kang, J.S., et al. 2003. Promyogenic members of the Ig and cadherin families associate to positively regulate differentiation. Proc. Natl. Acad. Sci. USA 100: 3989-3994.
5. Kang, J.S., et al. 2004. Netrins and neogenin promote myotube formation. J. Cell Biol. 167: 493-504.
6. Krauss, R.S., et al. 2005. Close encounters: regulation of vertebrate skeletal myogenesis by cell-cell contact. J. Cell Sci. 118: 2355-2362.

CHROMOSOMAL LOCATION

Genetic locus: Boc (mouse) mapping to 16 B4.

PRODUCT

BOC 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 BOC shRNA Plasmid (m): sc-72162-SH and BOC shRNA (m) Lentiviral Particles: sc-72162-V as alternate gene silencing products.

For independent verification of BOC (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-72162A, sc-72162B and sc-72162C.

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

BOC siRNA (m) is recommended for the inhibition of BOC 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BOC gene expression knockdown using RT-PCR Primer: BOC (m)-PR: sc-72162-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.