SANTA CRUZ BIOTECHNOLOGY, INC.

CIB4 siRNA (m): sc-142341

BACKGROUND

CIB4 (calcium and integrin-binding family member 4) is a 185 amino acid protein that contains three EF-hand domains. CIB4 is closely related to CIB (CIB has one less EF-hand domain), which is known to bind to Integrin αIIb in platelets and is involved in signal transduction. The gene encoding CIB4 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin icthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

1. IJdo, J.W., et al. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. Proc. Natl. Acad. Sci. USA 88: 9051-9055.
2. Naik, U.P., et al. 1997. Identification of a novel calcium-binding protein that interacts with the integrin alphallb cytoplasmic domain. J. Biol. Chem. 272: 4651-4654.
3. Shock, D.D., et al. 1999. Calcium-dependent properties of CIB binding to the integrin alphallb cytoplasmic domain and translocation to the platelet cytoskeleton. Biochem. J. 342: 729-735.
4. Hwang, P.M., et al. 2000. Structures of the platelet calcium- and integrin-binding protein and the αIIb-integrin cytoplasmic domain suggest a mechanism for calcium-regulated recognition; homology modelling and NMR studies. J. Mol. Recognit. 13: 83-92.
5. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. Nature 434: 724-731.
6. Thomas, A.C., et al. 2006. ABCA12 is the major harlequin ichthyosis gene. J. Invest. Dermatol. 126: 2408-2413.
7. Denofrio, J.C., et al. 2008. Characterization of calcium- and integrin-binding protein 1 (CIB1) knockout platelets: potential compensation by CIB family members. Thromb. Haemost. 100: 847-856.

CHROMOSOMAL LOCATION

Genetic locus: Cib4 (mouse) mapping to 5 B1.

PRODUCT

CIB4 siRNA (m) is a pool of 2 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 CIB4 shRNA Plasmid (m): sc-142341-SH and CIB4 shRNA (m) Lentiviral Particles: sc-142341-V as alternate gene silencing products.

For independent verification of CIB4 (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-142341A and sc-142341B.

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

CIB4 siRNA (m) is recommended for the inhibition of CIB4 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 CIB4 gene expression knockdown using RT-PCR Primer: CIB4 (m)-PR: sc-142341-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.