SANTA CRUZ BIOTECHNOLOGY, INC.

CAS4 siRNA (m): sc-142014

BACKGROUND

Cas scaffolding protein family member 4, CAS4, also designated CASS4, HEFL (HEF-like protein), HEPL or C20orf32 is a 786 amino acid protein belonging to the CAS family which also includes p130 Cas, Sin and Cas-L. CAS4 is phosphorylated on tyrosines by SRC, interacts directly with focal adhesion kinase, FAK via its C-terminal SH3 domain and is thought to function as a possible docking protein involved in tyrosine-kinase-based signaling as it relates to cell adhesion. CAS4 is localized to the cytoplasm and cytoskeleton with most abundant expression found in lung and spleen. High expression has also been observed in both ovarian and leukemia cell lines. Multiple isoforms of CAS4 exist due to alternative splicing events. The gene encoding CAS4 maps to human chromosome 20 which represents about 2% of human DNA; chromosome 20 consists of approximately 63 million bases and 600 genes.

REFERENCES

1. Collins, S., et al. 2001. Gerstmann-Sträussler-Scheinker syndrome, fatal familial insomnia and kuru: a review of these less common human transmissible spongiform encephalopathies. J. Clin. Neurosci. 8: 387-397.
2. Ville, D., et al. 2006. Early pattern of epilepsy in the ring chromosome 20 syndrome. Epilepsia 47: 543-549.
3. Elghezal, H., et al. 2007. Ring chromosome 20 syndrome without deletions of the subtelomeric and CHRNA4-KCNQ2 genes loci. Eur. J. Med. Genet. 50: 441-445.
4. Lundwall, A. 2007. A locus on chromosome 20 encompassing genes that are highly expressed in the epididymis. Asian J. Androl. 9: 540-544.
5. Rikova, K., et al. 2007. Global survey of phosphotyrosine signaling identifies oncogenic kinases in lung cancer. Cell 131: 1190-1203.
6. Singh, M.K., et al. 2008. A novel Cas family member, HEPL, regulates FAK and cell spreading. Mol. Biol. Cell 19: 1627-1636.
7. Zahedi, R.P., et al. 2008. Phosphoproteome of resting human platelets. J. Proteome Res. 7: 526-534.

CHROMOSOMAL LOCATION

Genetic locus: Cass4 (mouse) mapping to 2 H3.

PRODUCT

CAS4 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 CAS4 shRNA Plasmid (m): sc-142014-SH and CAS4 shRNA (m) Lentiviral Particles: sc-142014-V as alternate gene silencing products.

For independent verification of CAS4 (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-142014A, sc-142014B and sc-142014C.

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

CAS4 siRNA (m) is recommended for the inhibition of CAS4 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 CAS4 gene expression knockdown using RT-PCR Primer: CAS4 (m)-PR: sc-142014-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.