SANTA CRUZ BIOTECHNOLOGY, INC.

MAST4 siRNA (h): sc-106201

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. MAST4 (microtubule associated serine/threonine kinase family member 4), also known as KIAA0303, is a 2,626 amino acid protein that localizes to the cytoplasm and contains one protein kinase domain, as well as one PDZ domain and one AGC-kinase C-terminal domain. Expressed at high levels in most adult tissues, including testis, colon and small intestine, MAST4 uses magnesium as a cofactor to catalyze the ATP-dependent phosphorylation of target proteins. Multiple isoforms of MAST4 exist due to alternative splicing events.

REFERENCES

1. Hanks, S.K., et al. 1988. The protein kinase family: conserved features and deduced phylogeny of the catalytic domains. Science 241: 42-52.
2. Hunter, T. 1991. Protein kinase classification. Methods Enzymol. 200: 3-37.
3. Hanks, S.K. and Quinn, A.M. 1991. Protein kinase catalytic domain sequence database: identification of conserved features of primary structure and classification of family members. Methods Enzymol. 200: 38-62.
4. Nagase, T., et al. 1997. Prediction of the coding sequences of unidentified human genes. VII. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 4: 141-150.
5. Sun, L., et al. 2006. Identification of a novel human MAST4 gene, a new member of the microtubule associated serine-threonine kinase family. Mol. Biol. 40: 808-815.
6. Garland, P., et al. 2008. Expression of the MAST family of serine/threonine kinases. Brain Res. 1195: 12-19.

CHROMOSOMAL LOCATION

Genetic locus: MAST4 (human) mapping to 5q12.3.

PRODUCT

MAST4 siRNA (h) is a target-specific 19-25 nt siRNA 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 MAST4 shRNA Plasmid (h): sc-106201-SH and MAST4 shRNA (h) Lentiviral Particles: sc-106201-V as alternate gene silencing 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

MAST4 siRNA (h) is recommended for the inhibition of MAST4 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 MAST4 gene expression knockdown using RT-PCR Primer: MAST4 (h)-PR: sc-106201-PR (20 µl, 586 bp). 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.