SANTA CRUZ BIOTECHNOLOGY, INC.

JM4 siRNA (h): sc-91097

BACKGROUND

JM4 (Jena-Muenchen 4), also known as PRAF2 (PRA1 domain family, member 2), is a 178 amino acid endosomal multi-pass membrane protein involved in vesicular trafficking and Endoplasmic reticulum/Golgi transport. As a member of the PRA1 family, JM4 contains four putative transmembrane (TM) domains, interacts with the CC chemokine receptor 5 (CCR5) and colocalizes with Calnexin in the ER and mannose 6-phosphate receptor (CD-MPR) in the Golgi apparatus. While ubiquitously expressed, JM4 has been found at high levels in small intestine, lung, pancreas, spleen, Purkinje cells of the cerebellum and in neuronal cells of the hippocampus, cerebral cortex and lateral ventricles of the brain. JM4 plays a proapoptic role in cerulenin-induced neuroblastoma apoptosis and has been implicated in human cancer. JM4, which serves as a candidate prognostic marker in neuroblastoma, is encoded by a gene that maps to human chromosome Xp11.23.

REFERENCES

1. Ross, R.A., Biedler, J.L. and Spengler, B.A. 2003. A role for distinct cell types in determining malignancy in human neuroblastoma cell lines and tumors. Cancer Lett. 197: 35-39.
2. Schweneker, M., Bachmann, A.S. and Moelling, K. 2005. JM4 is a four-transmembrane protein binding to the CCR5 receptor. FEBS Lett. 579: 1751-1758.
3. Geerts, D., Wallick, C.J., Koomoa, D.L., Koster, J., Versteeg, R., Go, R.C. and Bachmann, A.S. 2007. Expression of prenylated Rab acceptor 1 domain family, member 2 (PRAF2) in neuroblastoma: correlation with clinical features, cellular localization, and cerulenin-mediated apoptosis regulation. Clin. Cancer Res. 13: 6312-6319.

CHROMOSOMAL LOCATION

Genetic locus: PRAF2 (human) mapping to Xp11.23.

PRODUCT

JM4 siRNA (h) 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 JM4 shRNA Plasmid (h): sc-91097-SH and JM4 shRNA (h) Lentiviral Particles: sc-91097-V as alternate gene silencing products.

For independent verification of JM4 (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-91097A and sc-91097B.

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

JM4 siRNA (h) is recommended for the inhibition of JM4 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 JM4 gene expression knockdown using RT-PCR Primer: JM4 (h)-PR: sc-91097-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.