SANTA CRUZ BIOTECHNOLOGY, INC.

KALIG siRNA (h): sc-43036

BACKGROUND

Cell adhesion molecules are a family of closely related cell surface glycoproteins involved in cell-cell interactions during growth and are thought to play an important role in embryogenesis and development. Neuronal cell adhesion molecule (NCAM) expression is observed in a variety of human tumors including neuroblastomas, rhabdomyosarcomas, Wilm's tumors, Ewing's sarcomas and some primitive myeloid malignancies. The intracellular adhesion molecule-1 (ICAM-1), also referred to as CD54, is an integral membrane protein of the immunoglobulin superfamily and recognizes the $\beta 2/\alpha 1$ and $\beta 2/\alpha M$ Integrins. PECAM-1 (platelet/endothelial cell adhesion molecule-1), also referred to as CD31, is a glycoprotein expressed on the cell surfaces of monocytes, neutrophils, platelets and a subpopulation of T cells. VCAM-1 (vascular cell adhesion molecule-1) was first identified as an adhesion molecule induced on human endothelial cells by inflammatory cytokines such as IL-1, tumor necrosis factor (TNF) and lipopolysaccharide (LPS). The KALIG gene encodes a nerve cell adhesion molecule (NCAM)-like protein and is deleted in 66% of patients with Kallmann's syndrome, anosmia with secondary hypo-gonadism.

REFERENCES

1. Cowen, M.A., et al. 1993. The Kallmann's syndrome variant (KSV) model of the schizophrenias. Schizophr. Res. 9: 1-10.
2. Patel, K., et al. 1993. Vase mini-exon usage by NCAM is not restricted to tumours of neuroectodermal origin. Int. J. Cancer 54: 772-777.
3. Jorgensen, O.S. 1995. Neural cell adhesion molecule (NCAM) as a quantitative marker in synaptic remodeling. Neurochem. Res. 20: 533-547.
4. Edelman, G.M., et al. 1995. Developmental control of N-CAM expression by Hox and Pax gene products. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 349: 305-312.
5. Dominici, C., et al. 1996. Bone marrow micrometastases in a patient with localized Wilms' tumor. Med. Pediatr. Oncol. 26: 125-128.
6. Briskin, M.J., et al. 1996. Structural requirements for mucosal vascular addressin binding to its lymphocyte receptor $\alpha 4\beta 7$. Common themes among integrin-Ig family interactions. J. Immunol. 156: 719-726.
7. Berman, M.E., et al. 1996. Roles of platelet/endothelial cell adhesion molecule-1 (PECAM-1, CD31) in natural killer cell transendothelial migration and $\beta 2$ integrin activation. J. Immunol. 156: 1515-1524.
8. Mayet, W.J., et al. 1996. Antibodies to proteinase 3 mediate expression of vascular cell adhesion molecule-1 (VCAM-1). Clin. Exp. Immunol. 103: 259-267.

CHROMOSOMAL LOCATION

Genetic locus: KAL1 (human) mapping to Xp22.31.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

KALIG siRNA (h) 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 KALIG shRNA Plasmid (h): sc-43036-SH and KALIG shRNA (h) Lentiviral Particles: sc-43036-V as alternate gene silencing products.

For independent verification of KALIG (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-43036A, sc-43036B and sc-43036C.

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

KALIG siRNA (h) is recommended for the inhibition of KALIG 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 KALIG gene expression knockdown using RT-PCR Primer: KALIG (h)-PR: sc-43036-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Granato, M., et al. 2014. Hepatitis C virus present in the sera of infected patients interferes with the autophagic process of monocytes impairing their *in-vitro* differentiation into dendritic cells. Biochim. Biophys. Acta 1843: 1348-1355.

RESEARCH USE

For research use only, not for use in diagnostic procedures.