SANTA CRUZ BIOTECHNOLOGY, INC.

Kindlin-1 siRNA (h): sc-62529

BACKGROUND

Kindlin-1, also called Kindlerin or UNC-112-related protein 1 (URP1), is a 677 amino acid member of the kindlin family involved in cell adhesion. Kindlin-1 interacts with the cytoplasmic domain of Integrin β1 and Integrin β3. Kindlin-1 is expressed in the cytoplasm, in cell junctions and in focal adhesions of brain, kidney, colon, skeletal muscle, adrenal gland, prostate and placenta. Kindlin-1 is only weakly expressed, if at all, in bone marrow, heart, liver, lung, small intestine, spleen and peripheral blood leukocytes. Upregulation of Kindlin-1 occurrs in many colon and lung carcinomas. In focal adhesions, induction via TGFβ1 results in Kindlin-1 localizing to membrane ruffles. Mutations in the gene encoding Kindlin-1 can lead to a condition known as Kindler syndrome. This autosomal recessive disorder is characterized by skin blistering, sun sensitivity, abnormal pigmentation, atrophy and overall skin fragility.

REFERENCES

1. Siegel, D.H., et al. 2003. Loss of Kindlin-1, a human homolog of the *Caenorhabditis elegans* Actin-extracellular-matrix linker protein UNC-112, causes Kindler syndrome. Am. J. Hum. Genet. 73: 174-187.
2. Ashton, G.H. 2004. Kindler syndrome. Clin. Exp. Dermatol. 29: 116-121.
3. Ashton, G.H., et al. 2004. Recurrent mutations in Kindlin-1, a novel keratinocyte focal contact protein, in the autosomal recessive skin fragility and photosensitivity disorder, Kindler syndrome. J. Invest. Dermatol. 122: 78-83.
4. White, S.J., et al. 2005. Kindler surprise: mutations in a novel Actin-associated protein cause Kindler syndrome. J. Dermatol. Sci. 38: 169-175.
5. Sethuraman, G., et al. 2005. An Indian child with Kindler syndrome resulting from a new homozygous nonsense mutation (C468X) in the KIND1 gene. Clin. Exp. Dermatol. 30: 286-288.
6. Burch, J.M., et al. 2006. Kindler syndrome: a new mutation and new diagnostic possibilities. Arch. Dermatol. 142: 620-624.
7. Has, C., et al. 2006. Molecular basis of Kindler syndrome in Italy: novel and recurrent Alu/Alu recombination, splice site, nonsense, and frameshift mutations in the KIND1 gene. J. Invest. Dermatol. 126: 1776-1783.

CHROMOSOMAL LOCATION

Genetic locus: FERMT1 (human) mapping to 20p12.3.

PRODUCT

Kindlin-1 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 Kindlin-1 shRNA Plasmid (h): sc-62529-SH and Kindlin-1 shRNA (h) Lentiviral Particles: sc-62529-V as alternate gene silencing products.

For independent verification of Kindlin-1 (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-62529A, sc-62529B and sc-62529C.

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

Kindlin-1 siRNA (h) is recommended for the inhibition of Kindlin-1 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 Kindlin-1 gene expression knockdown using RT-PCR Primer: Kindlin-1 (h)-PR: sc-62529-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.