SANTA CRUZ BIOTECHNOLOGY, INC.

KANK2 siRNA (m): sc-141086

BACKGROUND

KANK2 (KN motif and ankyrin repeat domains 2), also known as ANKRD25, MXRA3 (matrix-remodeling-associated protein 3) or SIP (SRC1-interacting protein), is a 851 amino acid protein containing 5 ANK repeats. KANK2 plays a role in transcription regulation by sequestering nuclear receptors coactivators in the cytoplasm. KANK2 is also proposed to sequester AIFM1 in the mitochondria, regulating caspase-independent apopotosis, with the AIFM1 releasing to the nuclear following apoptotic stimuli which leads to KANK2 proteasomal degradation. KANK2 is also involved in controlling the vitamin D receptor signaling pathway, and may also control cytoskeleton formation by regulating actin polymerization. Mutations in the KANK2 gene results in palmoplantar keratoderma and woolly hair (PPKWH), a disorder characterized by abnormal thickening of the skin on the palms and soles and woolly scalp hair.

REFERENCES

1. Zhang, Y., et al. 2007. SIP, a novel ankyrin repeat containing protein, sequesters steroid receptor coactivators in the cytoplasm. EMBO J. 26: 2645-2657.
2. Zhu, Y., et al. 2008. Kank proteins: a new family of ankyrin-repeat domain-containing proteins. Biochim. Biophys. Acta 1780: 128-133.
3. Kakinuma, N., et al. 2009. Kank proteins: structure, functions and diseases. Cell. Mol. Life Sci. 66: 2651-2659.
4. Wang, D., et al. 2012. Steroid receptor coactivator-interacting protein (SIP) inhibits caspase-independent apoptosis by preventing apoptosis-inducing factor (AIF) from being released from mitochondria. J. Biol. Chem. 287: 12612-12621.
5. Weissglas-Volkov, D., et al. 2013. Genomic study in Mexicans identifies a new locus for triglycerides and refines European lipid loci. J. Med. Genet. 50: 298-308.
6. Ramot, Y., et al. 2014. Mutation in KANK2, encoding a sequestering protein for steroid receptor coactivators, causes keratoderma and woolly hair. J. Med. Genet. 51: 388-394.

CHROMOSOMAL LOCATION

Genetic locus: Kank2 (mouse) mapping to 9 A3.

PRODUCT

KANK2 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 KANK2 shRNA Plasmid (m): sc-141086-SH and KANK2 shRNA (m) Lentiviral Particles: sc-141086-V as alternate gene silencing products.

For independent verification of KANK2 (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-141086A, sc-141086B and sc-141086C.

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

KANK2 siRNA (m) is recommended for the inhibition of KANK2 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 KANK2 gene expression knockdown using RT-PCR Primer: KANK2 (m)-PR: sc-141086-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.