SANTA CRUZ BIOTECHNOLOGY, INC.

KIBRA siRNA (h): sc-91969

BACKGROUND

KIBRA (kidney and brain protein), also known as WWC1 (WW and C2 domain containing 1) or HBEBP3, is a 1,113 amino acid protein that localizes to the cytoplasm and contains one C2 domain and two WW domains. Expressed in colon, brain, kidney and heart tissue, KIBRA is thought to interact with dendrin and, via this interaction, may play a role in collagen-induced signaling. Addi-tionally, KIBRA, which exists as multiple alternatively spliced isoforms, is involved in memory performance and in the pathogenesis of Alzheimer's disease. The gene encoding KIBRA maps to human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Kremerskothen, J., et al. 2003. Characterization of KIBRA, a novel WW domain-containing protein. Biochem. Biophys. Res. Commun. 300: 862-867.
2. Büther, K., et al. 2004. KIBRA is a novel substrate for protein kinase Cζ. Biochem. Biophys. Res. Commun. 317: 703-707.
3. Rayala, S.K., et al. 2006. Essential role of KIBRA in co-activator function of dynein light chain 1 in mammalian cells. J. Biol. Chem. 281: 19092-19099.
4. Papassotiropoulos, A., et al. 2006. Common KIBRA alleles are associated with human memory performance. Science 314: 475-478.
5. Hilton, H.N., et al. 2008. KIBRA interacts with discoidin domain receptor 1 to modulate collagen-induced signalling. Biochim. Biophys. Acta 1783: 383-393.
6. Almeida, O.P., et al. 2008. KIBRA genetic polymorphism influences episodic memory in later life, but does not increase the risk of mild cognitive impairment. J. Cell. Mol. Med. 12: 1672-1676.
7. Corneveaux, J.J., et al. 2010. Evidence for an association between KIBRA and late-onset Alzheimer's disease. Neurobiol. Aging 31: 901-909.

CHROMOSOMAL LOCATION

Genetic locus: WWC1 (human) mapping to 5q34.

PRODUCT

KIBRA 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 KIBRA shRNA Plasmid (h): sc-91969-SH and KIBRA shRNA (h) Lentiviral Particles: sc-91969-V as alternate gene silencing products.

For independent verification of KIBRA (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-91969A, sc-91969B and sc-91969C.

PROTOCOLS

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

KIBRA siRNA (h) is recommended for the inhibition of KIBRA 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.

GENE EXPRESSION MONITORING

KIBRA (B-3): sc-518263 is recommended as a control antibody for monitoring of KIBRA gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KIBRA gene expression knockdown using RT-PCR Primer: KIBRA (h)-PR: sc-91969-PR (20 µl, 559 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.