SANTA CRUZ BIOTECHNOLOGY, INC.

Bex4 siRNA (h): sc-62019

BACKGROUND

The brain-expressed X-linked (Bex) family of proteins is expressed in the central nervous system, with highest levels detected in cerebellum, temporal lobe and pituitary tissues. Bex4, also known as Bex1-like 1, TCEAL7 or nerve growth factor receptor-associated protein 3, is a member of the Bex family involved in cell death regulation. It is expressed highly in heart, skeletal muscle and liver localizing to the nucleus and the cytoplasm. Bex4 is frequently downregulated or inactivated by methylation in ovarian tumors and cancer cell lines. Forced expression of Bex4 induces apoptosis and reduces colony formation. This suggests that Bex4 acts as a tumor suppressor. Bex4 shares 50% sequence homology with the apoptosis-inducing domain of Bex3 and 77% sequence homology with its regulatory domain. Bex4 is located on the X chromosome and is subject to X chromosome inactivation.

REFERENCES

1. Koo, J.H., et al. 2005. Immunolocalization of Bex protein in the mouse brain and olfactory system. J. Comp. Neurol. 487: 1-14.
2. Han, C., et al. 2005. Human Bex2 interacts with LMO2 and regulates the transcriptional activity of a novel DNA-binding complex. Nucleic Acids Res. 33: 6555-6565.
3. Winter, E.E. and Ponting, C.P. 2005. Mammalian BEX, WEX and GASP genes: coding and non-coding chimaerism sustained by gene conversion events. BMC Evol. Biol. 5: 54-54.
4. Alvarez, E., et al. 2005. Characterization of the Bex gene family in humans, mice, and rats. Gene 357: 18-28.
5. Chien, J., et al. 2005. Epigenetic silencing of TCEAL7 (Bex4) in ovarian cancer. Oncogene 24: 5089-5100.
6. Delgado, I.J., et al. 2006. Expression profiling of clonal lymphocyte cell cultures from Rett syndrome patients. BMC Med. Genet. 7: 61-61.
7. Naderi, A., et al. 2007. Bex2 is overexpressed in a subset of primary breast cancers and mediates nerve growth factor/nuclear factor κB inhibition of apoptosis in breast cancer cell lines. Cancer Res. 67: 6725-6736.

CHROMOSOMAL LOCATION

Genetic locus: BEX4 (human) mapping to Xq22.1.

PRODUCT

Bex4 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 Bex4 shRNA Plasmid (h): sc-62019-SH and Bex4 shRNA (h) Lentiviral Particles: sc-62019-V as alternate gene silencing products.

For independent verification of Bex4 (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-62019A, sc-62019B and sc-62019C.

RESEARCH USE

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

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

Bex4 siRNA (h) is recommended for the inhibition of Bex4 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 Bex4 gene expression knockdown using RT-PCR Primer: Bex4 (h)-PR: sc-62019-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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