SANTA CRUZ BIOTECHNOLOGY, INC.

BANK1 siRNA (h): sc-89307

BACKGROUND

BANK1 (B-cell scaffold protein with ankyrin repeats) is a 785 amino acid protein that contains one DBB domain and two ANK (ankyrin) repeats. Expressed in a variety of B cells with particularly high expression in $CD19^+$ B cells, BANK1 interacts with Lyn, IP3R-I and IP3R-II and is involved in B cell receptor-induced calcium mobilization from intracellular calcium stores. Via its association with Lyn, BANK1 promotes Lyn-mediated tyrosine phosphorylation of IP3R-I and IP3R-II, an event that activates B cells and may be required for antigen-induced immune responses within the body. Defects in the gene encoding BANK1 increase the genetic susceptibility to systemic lupus erythematosus (SLE), a chronic inflammatory disorder that affects joints, skin, serosal membranes and kidney tissue. BANK1 exists as four isoforms that are produced by alternative splicing events.

REFERENCES

1. Yokoyama, K., et al. 2002. BANK regulates BCR-induced calcium mobilization by promoting tyrosine phosphorylation of IP(3) receptor. EMBO J. 21: 83-92.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610292. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Aiba, Y., et al. 2006. BANK negatively regulates Akt activation and subsequent B cell responses. Immunity 24: 259-268.
4. Kozyrev, S.V., et al. 2008. Functional variants in the B cell gene BANK1 are associated with systemic lupus erythematosus. Nat. Genet. 40: 211-216.
5. Kozyrev, S.V., et al. 2008. Corrigendum: Functional variants in the B cell gene BANK1 are associated with systemic lupus erythematosus. Nat. Genet. 40: 484.

CHROMOSOMAL LOCATION

Genetic locus: BANK1 (human) mapping to 4q24.

PRODUCT

BANK1 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 BANK1 shRNA Plasmid (h): sc-89307-SH and BANK1 shRNA (h) Lentiviral Particles: sc-89307-V as alternate gene silencing products.

For independent verification of BANK1 (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-89307A, sc-89307B and sc-89307C.

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.

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

BANK1 siRNA (h) is recommended for the inhibition of BANK1 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

BANK1 (F-8): sc-393611 is recommended as a control antibody for monitoring of BANK1 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) 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 BANK1 gene expression knockdown using RT-PCR Primer: BANK1 (h)-PR: sc-89307-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.