SANTA CRUZ BIOTECHNOLOGY, INC.

IBtk siRNA (h): sc-95065

BACKGROUND

IBtk (inhibitor of Bruton agammaglobulinemia tyrosine kinase), also known as BTKI or RP1-93K22.1, is a 1,353 amino acid peripheral membrane protein containing three ANK repeats, two BTB (POZ) domains and three RCC1 repeats. Existing as three alternatively spliced isoforms, IBtk down-regulates BTK kinase activity and disrupts BTK-mediated calcium mobilization, thereby negatively regulating the activation of nuclear factor-κ-B (NFκB) driven transcription. IBtk isoform 1 is the predominant isoform expressed in all tissues and translocates to the plasma membrane upon IgM stimulation, whereas isoform 2 localizes to the nucleus. Required for B-cell development, IBtk acts as an inhibitor of BTK tyrosine kinase activity. The gene encoding IBtk maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: IBTK (human) mapping to 6q14.1.

PROTOCOLS

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

PRODUCT

IBtk 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 IBtk shRNA Plasmid (h): sc-95065-SH and IBtk shRNA (h) Lentiviral Particles: sc-95065-V as alternate gene silencing products.

For independent verification of IBtk (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-95065A, sc-95065B and sc-95065C.

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

IBtk siRNA (h) is recommended for the inhibition of IBtk 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 IBtk gene expression knockdown using RT-PCR Primer: IBtk (h)-PR: sc-95065-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.