SANTA CRUZ BIOTECHNOLOGY, INC.

BAT5 siRNA (m): sc-72619

BACKGROUND

On human chromosome 6, Major histocompatibility complex (MHC) class I and II gene clusters are separated by a 700-kb stretch of sequence known as the MHC class III region. This extremely dense region contains very few genes that have been functionally characterized. MHC class III molecules have very different functions than class I and II molecules. Rather than playing direct roles in the innate and adaptive immune responses, class III molecules encode for products of immunity such as complement components and cytokines. HLA-B-associated transcripts (BATs) map within the MHC class III gene region, which also includes the genes for TNF-α and TNF-β. BAT5 (HLA-B-associated transcript 5), also known as Protein G5, is a 558 amino acid multi-pass membrane protein that belongs to the BAT family. The gene encoding BAT5 maps within a cluster of BAT genes that is implicated in the development of rheumatoid arthritis and Insulin-dependent diabetes mellitus (IDDM).

REFERENCES

1. Spies, T., et al. 1989. Human major histocompatibility complex contains a minimum of 19 genes between the complement cluster and HLA-B. Proc. Natl. Acad. Sci. USA 86: 8955-8958.
2. Spies, T., et al. 1989. A new cluster of genes within the human major histocompatibility complex. Science 243: 214-217.
3. Mathew, P.A., et al. 1995. Identification of a recombinational breakpoint at the BAT5 locus in three intra-H-2 recombinant inbred mouse strains. Exp. Clin. Immunogenet. 12: 261-267.
4. Xie, T., et al. 2003. Analysis of the gene-dense major histocompatibility complex class III region and its comparison to mouse. Genome Res. 13: 2621-2636.
5. Gevaert, K., et al. 2003. Exploring proteomes and analyzing protein processing by mass spectrometric identification of sorted N-terminal peptides. Nat. Biotechnol. 21: 566-569.
6. Mungall, A.J., et al. 2003. The DNA sequence and analysis of human chromosome 6. Nature 425: 805-811.

CHROMOSOMAL LOCATION

Genetic locus: Bat5 (mouse) mapping to 17 B1.

PRODUCT

BAT5 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 BAT5 shRNA Plasmid (m): sc-72619-SH and BAT5 shRNA (m) Lentiviral Particles: sc-72619-V as alternate gene silencing products.

For independent verification of BAT5 (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-72619A, sc-72619B and sc-72619C.

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

BAT5 siRNA (m) is recommended for the inhibition of BAT5 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 BAT5 gene expression knockdown using RT-PCR Primer: BAT5 (m)-PR: sc-72619-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.