SANTA CRUZ BIOTECHNOLOGY, INC.

TAPBPL siRNA (h): sc-96046

BACKGROUND

TAPBPL (TAP binding protein-like), also known as TAPBPR or TAPBP-R, is a 468 amino acid protein that contains one Ig-like (immunoglobulin-like) C1-type domain and one Ig-like V-type domain. Localized to the membrane of both the endoplasmic reticulum (ER) and the microsome, TAPBPL is a single-pass type I membrane protein that is similar to TPN (also known as TAPBP or tapasin), a transmembrane glycoprotein that belongs to the variable-constant Ig superfamily. TPN functions to link the ER-associated antigen transporter TAP with major histocompatibility complex (MHC) class I molecules, thereby mediating peptide loading onto MHC proteins. Due to its similarity with TPN, TAPBPL is thought to play a role in antigen processing events within the ER.

REFERENCES

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2. Ortmann, B., et al. 1997. A critical role for tapasin in the assembly and function of multimeric MHC class I-TAP complexes. Science 277: 1306-1309.
3. Herberg, J.A., et al. 1998. Genomic analysis of the tapasin gene, located close to the TAP loci in the MHC. Eur. J. Immunol. 28: 459-467.
4. Mayer, W.E. and Klein, J. 2001. Is tapasin a modified MHC class I molecule? Immunogenetics 53: 719-723.
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7. Rizvi, S.M. and Raghavan, M. 2006. Direct peptide-regulatable interactions between MHC class I molecules and tapasin. Proc. Natl. Acad. Sci. USA 103: 18220-18225.
8. Chambers, J.E., et al. 2008. Formation of a major histocompatibility complex class I tapasin disulfide indicates a change in spatial organization of the peptide-loading complex during assembly. J. Biol. Chem. 283: 1862-1869.

CHROMOSOMAL LOCATION

Genetic locus: TAPBPL (human) mapping to 12p13.31.

PRODUCT

TAPBPL 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 TAPBPL shRNA Plasmid (h): sc-96046-SH and TAPBPL shRNA (h) Lentiviral Particles: sc-96046-V as alternate gene silencing products.

For independent verification of TAPBPL (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-96046A, sc-96046B and sc-96046C.

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

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

TAPBPL (42-L): sc-100290 is recommended as a control antibody for monitoring of TAPBPL 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 TAPBPL gene expression knockdown using RT-PCR Primer: TAPBPL (h)-PR: sc-96046-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.

PROTOCOLS

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