SANTA CRUZ BIOTECHNOLOGY, INC.

H2-Eb1 siRNA (m): sc-145851

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Major histocompatibility complex (MHC) molecules, which include human leukocyte antigens (HLAs), form an integral part of the immune response system. They are cell-surface receptors that bind foreign peptides and present them to cytotoxic T lymphocytes (CTLs). MHC class I molecules consist of two polypeptide chains, an a or heavy chain and a non-covalently associated protein, β-2-Microglobulin. MHC class II molecules consist of a non-covalent complex of an α and β chain. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes. H2-Eb1 (histocompatibility 2, class II antigen E β), also known as Ia4 or H2Eb, is a 264 amino acid murine protein that is a homolog of human HLA-DRβ1, and contains one Ig-like C1-type (immunoglobulin-like) domain. H2-Eb1 is encoded by a gene that maps to mouse chromosome 17 B1.

REFERENCES

1. Walter, W., et al. 2000. MHC class II antigen presentation pathway in murine tumours: tumour evasion from immunosurveillance? Br. J. Cancer 83: 1192-1201.
2. Mitchison, N.A. and Roes, J. 2002. Patterned variation in murine MHC promoters. Proc. Natl. Acad. Sci. USA 99: 10561-10566.
3. Bird, A.D., et al. 2007. Identification of glucocorticoid-regulated genes that control cell proliferation during murine respiratory development. J. Physiol. 585: 187-201.
4. Church, D.M., et al. 2009. Lineage-specific biology revealed by a finished genome assembly of the mouse. PLoS Biol. 7: e1000112.
5. Khandelwal, S. and Roche, P.A. 2010. Distinct MHC class II molecules are associated on the dendritic cell surface in cholesterol-dependent membrane microdomains. J. Biol. Chem. 285: 35303-35310.
6. Münz, C. 2012. Antigen processing for MHC class II presentation via autophagy. Front. Immunol. 3: 9.
7. Ryan, S.O. and Cobb, B.A. 2012. Roles for major histocompatibility complex glycosylation in immune function. Semin. Immunopathol. 34: 425-441.

CHROMOSOMAL LOCATION

Genetic locus: H2-Eb1 (mouse) mapping to 17 B1.

PRODUCT

H2-Eb1 siRNA (m) is a pool of 2 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 H2-Eb1 shRNA Plasmid (m): sc-145851-SH and H2-Eb1 shRNA (m) Lentiviral Particles: sc-145851-V as alternate gene silencing products.

For independent verification of H2-Eb1 (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-145851A and sc-145851B.

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

H2-Eb1 siRNA (m) is recommended for the inhibition of H2-Eb1 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.

GENE EXPRESSION MONITORING

HLA-DP (G-9): sc-390694 is recommended as a control antibody for monitoring of H2-Eb1 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 H2-Eb1 gene expression knockdown using RT-PCR Primer: H2-Eb1 (m)-PR: sc-145851-PR (20 µl, 599 bp). 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.