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## Produktinformation



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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# HLA-DP $\beta$ 1 shRNA (h2) Lentiviral Particles: sc-43929-V

## BACKGROUND

Major histocompatibility complex (MHC) molecules, also designated human leukocyte antigen (HLA) molecules, are cell-surface receptors that bind foreign peptides and present them to T lymphocytes. MHC class I molecules consist of two polypeptide chains, an  $\alpha$  or heavy chain and  $\beta$ -2-Microglobulin, a non-covalently associated protein. Cytotoxic T lymphocytes bind antigenic peptides presented by MHC class I molecules. Antigens that bind to MHC class I molecules are typically eight to ten residues in length and are stabilized in a peptide binding groove. MHC class II molecules are encoded by polymorphic MHC genes and consist of a non-covalent complex of an  $\alpha$  and  $\beta$  chain. Helper T lymphocytes bind antigenic peptides presented by MHC class II molecules. MHC class II molecules bind 13-18 amino acid antigenic peptides. Accumulating in endosomal/lysosomal compartments and on the surface of B cells, HLA-DM and -DO molecules regulate binding of exogenous peptides to class II molecules (HLA-DR) by sustaining a conformation that favors peptide exchange. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes.

## REFERENCES

- Murphy, D.B., Lo, D., Rath, S., Brinster, R.L., Flavell, R.A., Slanetz, A. and Janeway, C.A., Jr. 1989. A novel MHC class II epitope expressed in thymic medulla but not cortex. *Nature* 338: 765-768.
- Rudensky, AYu, Rath, S., Preston-Hurlburt, P., Murphy, D.B. and Janeway, C.A., Jr. 1991. On the complexity of self. *Nature* 353: 660-662.
- Agger, R., Petersen, M.S., Toldbod, H.E., Holtz, S., Dagnaes-Hansen, F., Johnsen, B.W., Bolund, L. and Hokland, M. 2000. Characterization of murine dendritic cells derived from adherent blood mononuclear cells *in vitro*. *Scand. J. Immunol.* 52: 138-147.
- Viret, C. and Janeway, C.A, Jr. 2000. Functional and phenotypic evidence for presentation of E a 52-68 structurally related self-peptides in I-E  $\alpha$ -deficient mice. *J. Immunol.* 164: 4627-4634.

## CHROMOSOMAL LOCATION

Genetic locus: HLA-DPB1 (human) mapping to 6p21.32.

## PRODUCT

HLA-DP  $\beta$ 1 shRNA (h2) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see HLA-DP  $\beta$ 1 siRNA (h2): sc-43929 and HLA-DP  $\beta$ 1 shRNA Plasmid (h2): sc-43929-SH as alternate gene silencing products.

## STORAGE

Store lentiviral particles at  $-80^\circ$  C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at  $4^\circ$  C for up to one week. Avoid repeated freeze thaw cycles.

## APPLICATIONS

HLA-DP  $\beta$ 1 shRNA (h2) Lentiviral Particles is recommended for the inhibition of HLA-DP  $\beta$ 1 expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

HLA-DP  $\beta$ 1 (H-60): sc-292587 is recommended as a control antibody for monitoring of HLA-DP  $\beta$ 1 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HLA-DP  $\beta$ 1 gene expression knockdown using RT-PCR Primer: HLA-DP  $\beta$ 1 (h2)-PR: sc-43929-PR (20  $\mu$ l). Annealing temperature for the primers should be  $55-60^\circ$  C and the extension temperature should be  $68-72^\circ$  C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.