SANTA CRUZ BIOTECHNOLOGY, INC.

ALCAM shRNA (bovine) Lentiviral Particles: sc-270374-V

BACKGROUND

Activated leukocyte cell adhesion molecule (ALCAM), expressed on activated leukocytes T cells, B cells and monocytes, is a member of the immunoglobulin superfamily (IgSF) and identified as a CD6 ligand. CD6 is a type I membrane protein in the scavenger receptor cysteine rich protein superfamily that acts in T cell adhesion and costimulation. ALCAM mediates thymocyte-thymic epithelial cell adhesion via homophilic (ALCAM-ALCAM) and heterophilic (ALCAM-CD6) interactions involving a previously undescribed protein-protein interaction between a member of the scavenger receptor cysteine rich protein superfamily and the immunoglobulin superfamily.

REFERENCES

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2. Skonier, J.E., et al. 1996. Recognition of diverse proteins by members of the immunoglobulin superfamily: delineation of the receptor binding site in the human CD6 ligand ALCAM. Biochemistry 35: 12287-12291.
3. Bowen, M.A., et al. 1997. Structure and chromosomal location of the human CD6 gene: detection of five human CD6 isoforms. J. Immunol. 158: 1149-1156.
4. Bowen, M.A., et al. 1997. Characterization of mouse ALCAM (CD166): the CD6-binding domain is conserved in different homologs and mediates cross-species binding. Eur. J. Immunol. 27: 1469-1478.
5. Cortes, F., et al. 1999. HCA, an immunoglobulin-like adhesion molecule present on the earliest human hematopoietic precursor cells, is also expressed by stromal cells in blood-forming tissues. Blood 93: 826-837.
6. Bowen, M.A. and Aruffo, A. 1999. Adhesion molecules, their receptors and their regulation: analysis of CD6-activated leukocyte cell adhesion molecule (ALCAM/CD166) interactions. Transplant. Proc. 31: 795-796.
7. Mann, C.J., et al. 2006. Comparison of neurolin (ALCAM) and neurolin-like cell adhesion molecule (NLCAM) expression in zebrafish. Gene Expr. Patterns 6: 952-963.
8. Jezierska, A., et al. 2006. ALCAM/CD166 protects breast cancer cells against apoptosis and autophagy. Med. Sci. Monit. 12: BR263-BR273.

CHROMOSOMAL LOCATION

Genetic locus: ALCAM (bovine) mapping to 1.

PRODUCT

ALCAM shRNA (bovine) 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 µl frozen stock containing 1.0 x 10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suit-able for 10-20 transductions. Also see ALCAM siRNA (bovine): sc-270374 and ALCAM shRNA Plasmid (bovine): sc-270374-SH as alternate gene silencing products.

APPLICATIONS

ALCAM shRNA (bovine) Lentiviral Particles is recommended for the inhibition of ALCAM expression in cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ALCAM gene expression knockdown using RT-PCR Primer: ALCAM (bovine)-PR: sc-270374-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° 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.

STORAGE

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

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 for detailed protocols and support products.