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CD52 shRNA (m) Lentiviral Particles: sc-44667-V

BACKGROUND

CD52 is a glycosylphosphatidylinositol (GPI)-linked surface antigen present at high levels on epithelial cells lining the male reproductive tract, thymocytes, lymphocytes, monocytes and macrophages. It is also present at variable levels on lymphoid malignancies. During sperm maturation, spermatozoa passing through the genital tract acquire CD52 that is shed from the epithelial cell lining into seminal plasma. CD52 is detectable on the surface of epididymal sperm and in the ejaculate but not on spermatogenic cells or testicular spermatozoa. The peptide backbone of CD52, which consists of 12 amino acids, is considered a mere scaffold for posttranslational modifications, such as GPI-anchor and N-glycosylation.

REFERENCES

1. Yeung, C.H., et al. 1997. Human epididymal secreted protein CD52 on ejaculated spermatozoa: correlations with semen characteristics and the effect of its antibody. *Mol. Hum. Reprod.* 3: 1045-1051.
2. Domagala, A., et al. 2001. CD52 antigen—a review. *Med. Sci. Monit.* 7: 325-331.
3. Xue, J., et al. 2003. First total synthesis of a GPI-anchored peptide. *J. Org. Chem.* 68: 4020-4029.
4. Shao, N., et al. 2003. Chemical synthesis of CD52 glycopeptides containing the acid-labile fucosyl linkage. *J. Org. Chem.* 68: 9003-9011.
5. Kumar, S., et al. 2003. Expression of CD52 on plasma cells in plasma cell proliferative disorders. *Blood* 102: 1075-1077.
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7. Hasegawa, A., et al. 2005. Antigenic epitope for sperm-immobilizing antibody detected in infertile women. *J. Reprod. Immunol.* 67: 77-86.

CHROMOSOMAL LOCATION

Genetic locus: Cd52 (mouse) mapping to 4 D3.

PRODUCT

CD52 shRNA (m) 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 μ l frozen stock containing 1.0×10^6 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 CD52 siRNA (m): sc-44667 and CD52 shRNA Plasmid (m): sc-44667-SH as alternate gene silencing products.

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.

PROTOCOLS

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

APPLICATIONS

CD52 shRNA (m) Lentiviral Particles is recommended for the inhibition of CD52 expression in mouse cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 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

CD52 (T-15): sc-27555 is recommended as a control antibody for monitoring of CD52 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CD52 gene expression knockdown using RT-PCR Primer: CD52 (m)-PR: sc-44667-PR (20 μ l). Annealing temperature for the primers should be $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

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.