SANTA CRUZ BIOTECHNOLOGY, INC.

FLVCR siRNA (h): sc-62324

BACKGROUND

FLVCR is a 555 amino acid protein encoded by the human gene FLVCR. It is a multi-pass membrane bound protein that belongs to the major facilitator superfamily, Feline leukemia virus subgroup C receptor family. FLVCR is responsible for the exportation of cytoplasmic heme groups. It is believed that it may protect developing erythroid cells from heme toxicity. Expression of FLVCR in cells will cause susceptibility to FeLV-C (feline leukemia virus subgroup C) *in vitro*. FLVCR is found in all hematopoietic tissues, including peripheral blood lymphocytes and fetal liver, and some expression is found in pancreas and kidney. It is down-regulated in haemopoietic progenitor cells undergoing differentiation and hemoglobinization.

REFERENCES

1. Quigley, J.G., et al. 2000. Cloning of the cellular receptor for feline leukemia virus subgroup C (FeLV-C), a retrovirus that induces red cell aplasia. Blood 95: 1093-1099.
2. Lipovich, L., et al. 2002. Genomic structure and evolutionary context of the human feline leukemia virus subgroup C receptor (hFLVCR) gene: evidence for block duplications and *de novo* gene formation within duplicons of the hFLVCR locus. Gene 286: 203-213.
3. Quigley, J.G., et al. 2004. Identification of a human heme exporter that is essential for erythropoiesis. Cell 118: 757-766.
4. Lucas, M.L., et al. 2005. Improved transduction of human sheep repopulating cells by retrovirus vectors pseudotyped with feline leukemia virus type C or RD114 envelopes. Blood 106: 51-58.
5. Quigley, J.G., et al. 2005. Investigation of a putative role for FLVCR, a cytoplasmic heme exporter, in Diamond-Blackfan anemia. Blood Cells Mol. Dis. 35: 189-192.
6. Brown, J.K., et al. 2006. Comprehensive mapping of receptor-functioning domains in feline leukemia virus subgroup C receptor FLVCR1. J. Virol. 80: 1742-1751.
7. Rey, M.A., et al. 2007. The C domain in the surface envelope glycoprotein of subgroup C feline leukemia virus is a second receptor-binding domain. Virology 370: 273-284.

CHROMOSOMAL LOCATION

Genetic locus: FLVCR1 (human) mapping to 1q32.3.

PRODUCT

FLVCR 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 FLVCR shRNA Plasmid (h): sc-62324-SH and FLVCR shRNA (h) Lentiviral Particles: sc-62324-V as alternate gene silencing products.

For independent verification of FLVCR (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-62324A, sc-62324B and sc-62324C.

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

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

FLVCR (C-4): sc-390100 is recommended as a control antibody for monitoring of FLVCR 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 FLVCR gene expression knockdown using RT-PCR Primer: FLVCR (h)-PR: sc-62324-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.