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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

TCIRG1 siRNA (m): sc-154139

BACKGROUND

TCIRG1 (T-cell, immune regulator 1, ATPase, H⁺ transporting, lysosomal V₀ subunit A3), also known as V-type proton ATPase 116 kDa subunit a isoform 3, T-cell immune response cDNA7 protein (TIRC7), a3, Vph1, Stv1, Atp6i, Osteoclastic proton pump 116 kDa subunit (OC116), OPTB1, ATP6N1 or ATP6VOA3, is an 830 amino acid multi-pass membrane protein belonging to the V-ATPase 116 kDa subunit family. Functioning as a component of the proton channel of V-ATPases, TCIRG1 is likely involved in T-cell activation and exists as two alternatively spliced isoforms termed isoform long and isoform short, which are expressed in osteoclasts and thymus, respectively. TCIRG1 gene mutations are associated with a rare genetic disease known as osteopetrosis autosomal recessive type 1 (OPTB1), which is characterized by abnormally dense bone that forms as a result of defective resorption of immature bone.

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CHROMOSOMAL LOCATION

Genetic locus: Tcigr1 (mouse) mapping to 19 A.

PRODUCT

TCIRG1 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 TCIRG1 shRNA Plasmid (m): sc-154139-SH and TCIRG1 shRNA (m) Lentiviral Particles: sc-154139-V as alternate gene silencing products.

For independent verification of TCIRG1 (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-154139A and sc-154139B.

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

TCIRG1 siRNA (m) is recommended for the inhibition of TCIRG1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TCIRG1 gene expression knockdown using RT-PCR Primer: TCIRG1 (m)-PR: sc-154139-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.