SANTA CRUZ BIOTECHNOLOGY, INC.

GITRL siRNA (m): sc-72135

BACKGROUND

GITRL (glucocorticoid-induced TNF-related ligand), a polypeptide encoded by a human umbilical endothelial cell cDNA, is a member of the TNF (tumor necrosis factor) superfamily. GITRL has a type 2 transmembrane topology that is characteristic of the TNF family. The TNF superfamilies regulate diverse biological functions, including cell proliferation, differentiation, and survival. GITRL is found on vascular endothelial cells and in several peripheral tissues (small intestine, ovary, testis and kidney) where it may modulate T lymphocyte survival. The receptor that recognizes GITRL is GITR and the two interact to regulate NFκB activation. The ligand-receptor pair of GITRL-GITR protects cells against AICD (activation-induced cell death).

REFERENCES

1. Gruss, H.J. 1996. Molecular, structural and biological characteristics of the tumor necrosis factor ligand superfamily. Int. J. Clin. Lab. Res. 26: 143-159.
2. Gruss, H.J., et al. 1996. Structural and biological features of the TNF receptor and TNF ligand superfamilies: interactive signals in the pathobiology of Hodgkin's disease. Ann. Oncol. 7: 19-26.
3. Nocentini, G., et al. 1997. A new member of the tumor necrosis factor/nerve growth factor receptor family inhibits T cell receptor-induced apoptosis. Proc. Natl. Acad. Sci. USA 94: 6216-6221.
4. Baker, S.J. and Reddy, E.P. 1998. Modulation of life and death by the TNF receptor superfamily. Oncogene 17: 3261-3270.
5. Gurney, A.L., et al. 1999. Identification of a new member of the tumor necrosis factor family and its receptor, a human ortholog of mouse GITR. Curr. Biol. 9: 215-218.
6. Riccardi, C., et al. 1999. Glucocorticoid hormone-induced modulation of gene expression and regulation of T cell death: role of GITR and GILZ, two dexamethasone-induced genes. Cell Death Differ. 6: 1182-1189.
7. Nocentini, G., et al. 2000. Gene structure and chromosomal assignment of mouse GITR, a member of the tumor necrosis factor/nerve growth factor receptor family. DNA Cell Biol. 19: 205-217.

CHROMOSOMAL LOCATION

Genetic locus: Tnfsf18 (mouse) mapping to 1 H2.1.

PRODUCT

GITRL siRNA (m) 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 GITRL shRNA Plasmid (m): sc-72135-SH and GITRL shRNA (m) Lentiviral Particles: sc-72135-V as alternate gene silencing products.

For independent verification of GITRL (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-72135A, sc-72135B and sc-72135C.

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

GITRL siRNA (m) is recommended for the inhibition of GITR 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 GITR gene expression knockdown using RT-PCR Primer: GITRL (m)-PR: sc-72135-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.