SANTA CRUZ BIOTECHNOLOGY, INC.

ITFG1 siRNA (m): sc-146306

BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane α and β subunits. The 16 α and 8 β subunits heterodimerize to produce more than 20 different receptors. Most integrin receptors bind ligands that are components of the extracellular matrix, including Fibronectin, Collagen (COL) and Vitronectin. Certain integrins can also bind to soluble ligands such as Fibrinogen, or to counter-receptors on adjacent cells such as the intracellular adhesion molecules (ICAMs), leading to aggregation of cells. Ligands serve to cross-link or cluster integrins by binding to adjacent integrin receptors; both receptor clustering and ligand occupancy are necessary for the activation of integrin-mediated responses. In addition to mediating cell adhesion and cytoskeletal organization, integrins function as signaling receptors. Signals transduced by integrins play a role in many biological processes, including cell growth, differentiation, migration and apoptosis. ITFG1 (Integrin-α FG-GAP repeat-containing protein 1), also known as TIP (T-cell immunomodulatory protein), is a 612 amino acid secreted protein that contains one FG-GAP repeat.

REFERENCES

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2. Miyamoto, S., Akiyama, S.K. and Yamada, K.M. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. Science 267: 883-885.
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4. Sheppard, D. 1996. Epithelial integrins. Bioessays 18: 655-660.
5. Fiscella, M., Perry, J.W., Teng, B., Bloom, M., Zhang, C., Leung, K., Pukac, L., Florence, K., Concepcion, A., Liu, B., Meng, Y., Chen, C., Elgin, E.C., Kanakaraj, P., Kaufmann, T.E., Porter, J., Cibotti, R., Mei, Y., et al. 2003. TIP, a T-cell factor identified using high-throughput screening increases survival in a graft-versus-host disease model. Nat. Biotechnol. 21: 302-307.
6. McConnell, J.L., Gomez, R.J., McCorvey, L.R., Law, B.K. and Wadzinski, B.E. 2007. Identification of a PP2A-interacting protein that functions as a negative regulator of phosphatase activity in the ATM/ATR signaling pathway. Oncogene 26: 6021-6030.

CHROMOSOMAL LOCATION

Genetic locus: Itfg1 (mouse) mapping to 8 C3.

PRODUCT

ITFG1 siRNA (m) is a target-specific 19-25 nt siRNA 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 ITFG1 shRNA Plasmid (m): sc-146306-SH and ITFG1 shRNA (m) Lentiviral Particles: sc-146306-V as alternate gene silencing products.

PROTOCOLS

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

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

ITFG1 siRNA (m) is recommended for the inhibition of ITFG1 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 ITFG1 gene expression knockdown using RT-PCR Primer: ITFG1 (m)-PR: sc-146306-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.