SANTA CRUZ BIOTECHNOLOGY, INC.

GIMAP6 siRNA (m): sc-145402

BACKGROUND

The GTPase of the immunity-associated protein (GIMAP) family of proteins include seven members that are expressed by genes residing on human chromosome 7. GIMAP proteins have been implicated in the regulation of lymphomyeloid cell survival. GIMAP6 (GTPase, IMAP family member 6), also known as IAN6 (immunity-associated nucleotide 6) or IAN2 (immunity-associated nucleotide 2), is a 292 amino acid protein that exists as two alternatively spliced isoforms. Highly expressed in placenta, lung, spleen and lymph node, GIMAP6 is found at moderate levels in heart, kidney, digestive tract and thymus. The gene encoding GIMPA6 maps to human chromosome 7, which houses over 1,000 genes, comprises nearly 5% of the human genome and has been linked to Osteogenesis imperfecta, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Tsipouras, P., Myers, J.C., Ramirez, F. and Prockop, D.J. 1983. Restriction fragment length polymorphism associated with the pro α 2I gene of human type I procollagen. Application to a family with an autosomal dominant form of Osteogenesis imperfecta. J. Clin. Invest. 72: 1262-1267.
2. Iwasaki, S., Usami, S., Abe, S., Isoda, H., Watanabe, T. and Hoshino, T. 2001. Long-term audiological feature in Pendred syndrome caused by PDS mutation. Arch. Otolaryngol. Head Neck Surg. 127: 705-708.
3. Cambot, M., Aresta, S., Kahn-Perlès, B., de Gunzburg, J. and Romeo, P.H. 2002. Human immune associated nucleotide 1: a member of a new guanosine triphosphatase family expressed in resting T and B cells. Blood 99: 3293-3301.
4. MacMurray, A.J., Moralejo, D.H., Kwitek, A.E., Rutledge, E.A., Van Yserloo, B., Gohlke, P., Speros, S.J., Snyder, B., Schaefer, J., Bieg, S., Jiang, J., Ettinger, R.A., Fuller, J., Daniels, T.L., Pettersson, A., Orlebeke, K., et al. 2002. Lymphopenia in the BB rat model of type 1 diabetes is due to a mutation in a novel immune-associated nucleotide (Ian)-related gene. Genome Res. 12: 1029-1039.
5. Krücken, J., Schroetel, R.M., Müller, I.U., Saïdani, N., Marinovski, P., Benten, W.P., Stamm, O. and Wunderlich, F. 2004. Comparative analysis of the human gimap gene cluster encoding a novel GTPase family. Gene 341: 291-304.
6. Reiner, O., Sapoznik, S. and Sapir, T. 2006. Lissencephaly 1 linking to multiple diseases: mental retardation, neurodegeneration, schizophrenia, male sterility, and more. Neuromolecular Med. 8: 547-565.

CHROMOSOMAL LOCATION

Genetic locus: Gimap6 (mouse) mapping to 6 B2.3.

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.

PRODUCT

GIMAP6 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 GIMAP6 shRNA Plasmid (m): sc-145402-SH and GIMAP6 shRNA (m) Lentiviral Particles: sc-145402-V as alternate gene silencing products.

For independent verification of GIMAP6 (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-145402A and sc-145402B.

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

GIMAP6 siRNA (m) is recommended for the inhibition of GIMAP6 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 GIMAP6 gene expression knockdown using RT-PCR Primer: GIMAP6 (m)-PR: sc-145402-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.