

IQCF3 siRNA (m): sc-146269

BACKGROUND

IQCF3 (IQ domain-containing protein F3) is a 154 amino acid protein that contains one IQ domain. The gene that encodes IQCF3 maps to human chromosome 3p21.2. Chromosome 3 houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Key tumor suppressing genes on chromosome 3 include those that encode the apoptosis mediator RASSF1, the cell migration regulator HYAL1 and the angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. Collod, G., Babron, M.C., Jondeau, G., Coulon, M., Weissenbach, J., Dubourg, O., Bourdarias, J.P., Bonaïti-Pellié, C., Junien, C. and Boileau, C. 1994. A second locus for Marfan syndrome maps to chromosome 3p24.2-p25. *Nat. Genet.* 8: 264-268.
2. De Jonghe, P., Timmerman, V., FitzPatrick, D., Spoelders, P., Martin, J.J. and Van Broeckhoven, C. 1997. Mutilating neuropathic ulcerations in a chromosome 3q13-q22 linked Charcot-Marie-Tooth disease type 2B family. *J. Neurol. Neurosurg. Psychiatr.* 62: 570-573.
3. Maho, A., Bensimon, A., Vassart, G. and Parmentier, M. 1999. Mapping of the CCXCR1, CX3CR1, CCBP2 and CCR9 genes to the CCR cluster within the 3p21.3 region of the human genome. *Cytogenet. Cell Genet.* 87: 265-268.
4. Robinson, P.N. and Godfrey, M. 2000. The molecular genetics of Marfan syndrome and related microfibrilopathies. *J. Med. Genet.* 37: 9-25.
5. Braga, E.A., Kashuba, V.I., Maliukova, A.V., Loginov, V.I., Senchenko, V.N., Bazov, I.V., Kiselev, L.L. and Zabarovskii, E.R. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. *Mol. Biol.* 37: 194-211.
6. Tsend-Ayush, E., Grützner, F., Yue, Y., Grossmann, B., Hänsel, U., Sudbrak, R. and Haaf, T. 2004. Plasticity of human chromosome 3 during primate evolution. *Genomics* 83: 193-202.
7. Pfeifer, G.P. and Dammann, R. 2005. Methylation of the tumor suppressor gene RASSF1A in human tumors. *Biochemistry* 70: 576-583.
8. Yue, Y., Grossmann, B., Ferguson-Smith, M., Yang, F. and Haaf, T. 2005. Comparative cytogenetics of human chromosome 3q21.3 reveals a hot spot for ectopic recombination in hominoid evolution. *Genomics* 85: 36-47.
9. Nair, P.N., McArdle, L., Cornell, J., Cohn, S.L. and Stallings, R.L. 2007. High-resolution analysis of 3p deletion in neuroblastoma and differential methylation of the SEMA3B tumor suppressor gene. *Cancer Genet. Cytogenet.* 174: 100-110.

CHROMOSOMAL LOCATION

Genetic locus: *Iqcf3* (mouse) mapping to 9 F1.

PROTOCOLS

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

PRODUCT

IQCF3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IQCF3 shRNA Plasmid (m): sc-146269-SH and IQCF3 shRNA (m) Lentiviral Particles: sc-146269-V as alternate gene silencing 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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

IQCF3 siRNA (m) is recommended for the inhibition of IQCF3 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 μ M in 66 μ l. 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 IQCF3 gene expression knockdown using RT-PCR Primer: IQCF3 (m)-PR: sc-146269-PR (20 μ l). 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.