SANTA CRUZ BIOTECHNOLOGY, INC.

CAB39L siRNA (m): sc-141958

BACKGROUND

Peutz-Jegers syndrome (PJS) is a rare hereditary disease characterized by melanocytic macules of the lips, gastrointestinal hamartomatous polyps and an increased risk for many classes of cancer. Mutations in the gene encoding the serine/threonine kinase LKB1 (also designated STK11) are the cause of PJS. LKB1 activity increases upon the binding of a regulatory complex consisting of the STE20-related adaptor-α (STRAD α) pseudo kinase and the calcium binding protein 39 (MO25, also known as CAB39). STRAD and MO25 determine the subcellular localization of LKB1 by initiating its translocation from the nucleus to the cytoplasm, thus regulating the tumor suppressor activity of LKB1. The LKB1/STRAD/MO25 complex acts as an AMP-activated protein kinase kinase (AMPKK). CAB39L (calcium binding protein 39-like), also known as MO25L (MO25-like) or MO2L, is a 337 amino acid protein that is similar to MO25 and is found in the serum of nearly half of all patients diagnosed with acute monocytic leukemia. This suggests a role for CAB39L in carcinogenesis.

REFERENCES

1. Jenne, D.E., et al. 1998. Peutz-Jeghers syndrome is caused by mutations in a novel serine threonine kinase. Nat. Genet. 18: 38-43.
2. Boudeau J., et al. 2004. Analysis of the LKB1-STRAD-MO25 complex. J Cell Sci. 117: 6365-6375.
3. Taylor E.B., et al. 2004. Endurance training increases LKB1 and MO25 protein but not AMP-activated protein kinase kinase activity in skeletal muscle. Am. J. Physiol. Endocrinol. Metab. 287: E1082-E1089.
4. Baas A.F., et al. 2004. LKB1 tumor suppressor protein: PARtaker in cell polarity. Trends Cell Biol. 14: 312-319.
5. Jaleel, M., et al. 2005. Identification of the sucrose non-fermenting related kinase SNRK, as a novel LKB1 substrate. FEBS Lett. 579: 1417-1423.
6. Taylor, E.B., et al. 2005. Long-chain acyl-CoA esters inhibit phosphorylation of AMP-activated protein kinase at threonine-172 by LKB1/STRAD/MO25. Am. J. Physiol. Endocrinol. Metab. 288: E1055-E1061.

CHROMOSOMAL LOCATION

Genetic locus: Cab39l (mouse) mapping to 14 C3.

PRODUCT

CAB39L 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 CAB39L shRNA Plasmid (m): sc-141958-SH and CAB39L shRNA (m) Lentiviral Particles: sc-141958-V as alternate gene silencing products.

For independent verification of CAB39L (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-141958A, sc-141958B and sc-141958C.

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

CAB39L siRNA (m) is recommended for the inhibition of CAB39L 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.

GENE EXPRESSION MONITORING

CAB39L (Q32): sc-100390 is recommended as a control antibody for monitoring of CAB39L gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CAB39L gene expression knockdown using RT-PCR Primer: CAB39L (m)-PR: sc-141958-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.