SANTA CRUZ BIOTECHNOLOGY, INC.

YMER siRNA (h): sc-76942

BACKGROUND

YMER, also known as CCDC50 (coiled-coil domain containing 50), C3orf6 or DFNA44, is a 306 amino acid cytoplasmic protein that exists as two alternatively spliced isoforms involved in EGFR signaling. YMER isoforms 1 and 2 (also designated isoforms short and long) are co-expressed in pancreas, placenta, liver, lung and kidney, but only isoform 1 is found at high levels in heart, brain and skeletal muscle. Containing multiple ubiquitin-interacting domains as well as tyrosine-phosphorylated residues, YMER negatively regulates NFκB. The gene encoding YMER maps to human chromosome 3q28, and, when defective, is the cause of a form of hearing loss known as deafness autosomal dominant type 44 (DFNA44).

REFERENCES

1. Vazza, G., Picelli, S., Bozzato, A. and Mostacciuolo, M.L. 2003. Identification and characterization of C3orf6, a new conserved human gene mapping to chromosome 3q28. Gene 314: 113-120.
2. Modamio-Høybjør, S., Moreno-Pelayo, M.A., Mencía, A., del Castillo, I., Chardenoux, S., Armenta, D., Lathrop, M., Petit, C. and Moreno, F. 2003. A novel locus for autosomal dominant nonsyndromic hearing loss (DFNA44) maps to chromosome 3q28-29. Hum. Genet. 112: 24-28.
3. Tashiro, K., Konishi, H., Sano, E., Nabeshi, H., Yamauchi, E. and Taniguchi, H. 2006. Suppression of the ligand-mediated down-regulation of epidermal growth factor receptor by Ymer, a novel tyrosine-phosphorylated and ubiquitinated protein. J. Biol. Chem. 281: 24612-24622.
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5. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611051. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Kameda, H., Watanabe, M., Bohgaki, M., Tsukiyama, T. and Hatakeyama, S. 2009. Inhibition of NFκB signaling via tyrosine phosphorylation of Ymer. Biochem. Biophys. Res. Commun. 378: 744-749.

CHROMOSOMAL LOCATION

Genetic locus: CCDC50 (human) mapping to 3q28.

PRODUCT

YMER siRNA (h) 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 YMER shRNA Plasmid (h): sc-76942-SH and YMER shRNA (h) Lentiviral Particles: sc-76942-V as alternate gene silencing products.

For independent verification of YMER (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-76942A, sc-76942B and sc-76942C.

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

YMER siRNA (h) is recommended for the inhibition of YMER expression in human 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

YMER (A-10): sc-398994 is recommended as a control antibody for monitoring of YMER 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 YMER gene expression knockdown using RT-PCR Primer: YMER (h)-PR: sc-76942-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.