

α Enolase siRNA (m): sc-35311

BACKGROUND

Enolases have been characterized as highly conserved cytoplasmic glycolytic enzymes that may be involved in differentiation. Three isoenzymes have been identified, α Enolase, β Enolase and γ Enolase. α Enolase expression has been detected on most tissues, whereas β Enolase is expressed predominantly in muscle tissue and γ Enolase is detected only in nervous tissue. These isoforms exist as both homodimers and heterodimers, and they play a role in converting phosphoglyceric acid to phosphoenolpyruvic acid in the glycolytic pathway.

REFERENCES

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2. Verma, M., et al. 1994. DNA sequences encoding Enolase are remarkably conserved from yeast to mammals. *Life Sci.* 55: 893-899.
3. Keller, A., et al. 1994. Coexpression of α and γ Enolase genes in neurons of adult rat brain. *J. Neurosci. Res.* 38: 493-504.
4. Zhang, E., et al. 1997. Mechanism of Enolase: the crystal structure of asymmetric dimer Enolase-2-phospho-D glycerate/Enolase-phosphoenolpyruvate at 2.0 Å resolution. *Biochemistry* 36: 12526-12534.
5. Deloulme, J.C., et al. 1997. A comparative study of the distribution of α and γ Enolase subunits in cultured rat neural cells and fibroblasts. *Int. J. Dev. Neurosci.* 15: 183-194.
6. Sensenbrenner, M., et al. 1997. Expression of two neuronal markers, growth-associated protein 43 and neuron-specific Enolase, in rat glial cells. *J. Mol. Med.* 75: 653-663.
7. Ito, S., et al. 2007. Differential expression of the human α Enolase gene in oral epithelium and squamous cell carcinoma. *Cancer Sci.* 98: 499-505.

CHROMOSOMAL LOCATION

Genetic locus: Eno1 (mouse) mapping to 4 E2.

PRODUCT

α Enolase 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 α Enolase shRNA Plasmid (h): sc-35310-SH and α Enolase shRNA (h) Lentiviral Particles: sc-35310-V as alternate gene silencing products.

For independent verification of α Enolase (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-35310A, sc-35310B and sc-35310C.

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

α Enolase siRNA (m) is recommended for the inhibition of α Enolase 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

α Enolase (9): sc-101513 is recommended as a control antibody for monitoring of α Enolase 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 α Enolase gene expression knockdown using RT-PCR Primer: α Enolase (m)-PR: sc-35311-PR (20 μl, 580 bp). 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.