SANTA CRUZ BIOTECHNOLOGY, INC.

α Enolase siRNA (h): sc-35310

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 phosphenolpyruvic acid in the glycolytic pathway.

REFERENCES

1. Whitehead, M.C., et al. 1982. Synapse formation is related to the onset of neuron-specific Enolase immunoreactivity in the avian auditory and vestibular systems. Int. J. Dev. Neurosci. 5: 298-307.
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. 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.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: ENO1 (human) mapping to 1p36.23.

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.

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 (h) is recommended for the inhibition of α Enolase 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

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 (h)-PR: sc-35310-PR (20 µl, 422 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Fugier, E., et al. 2009. The glyceraldehyde-3-phosphate dehydrogenase and the small GTPase Rab 2 are crucial for *Brucella* replication. PLoS Pathog. 5: e1000487.
2. Wang, L., et al. 2020. Circular RNA circSEMA5A promotes bladder cancer progression by upregulating ENO1 and SEMA5A expression. Aging 12: 21674-21686.
3. Castoldi, F., et al. 2020. Autophagy-mediated metabolic effects of aspirin. Cell Death Discov. 6: 129.

RESEARCH USE

For research use only, not for use in diagnostic procedures.