SANTA CRUZ BIOTECHNOLOGY, INC.

Enolase (B-8): sc-271792

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. The 433 amino acid protein shows 67% homology to yeast Enolase and 94% homology to rat nonneural Enolase. Studies also indicate that α Enolase is encoded by the same gene that encodes τ-crystallin, a lens structural protein.

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. Dev. Neurosci. 5: 298-307.
2. Giallongo, A., et al. 1986. Molecular cloning and nucleotide sequence of a full-length cDNA for human α Enolase. Proc. Natl. Acad. Sci. USA 83: 6741-6745.
3. Wistow, G.J., et al. 1988. τ-crystallin/α Enolase: one gene encodes both an enzyme and a lens structural protein. J. Cell Biol. 107: 2729-2736.
4. Verma, M., et al. 1994. DNA sequences encoding Enolase are remarkably conserved from yeast to mammals. Life Sci. 55: 893-899.
5. Keller, A., et al. 1994. Coexpression of α and γ Enolase genes in neurons of adult rat brain. J. Neurosci. Res. 38: 493-504.
6. Zhang, E., et al. 1997. Mechanism of Enolase: the crystal structure of asymmetric dimer Enolase-2-phospho-D-glycerate/Enolase-phosphoenolpyruvate at 2.0 A resolution. Biochemistry 36: 12526-12534.
7. 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.

SOURCE

Enolase (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 391-413 near the C-terminus of α Enolase of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271792 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Enolase (B-8) is recommended for detection of α Enolase, β Enolase and γ Enolase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Enolase (B-8) is also recommended for detection of α Enolase, β Enolase and γ Enolase in additional species, including avian.

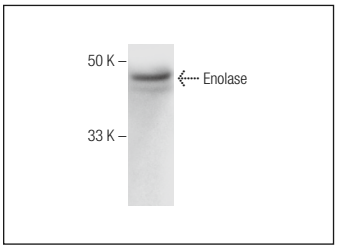
Molecular Weight of Enolase: 48 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SK-N-SH cell lysate: sc-2410 or Y79 cell lysate: sc-2240.

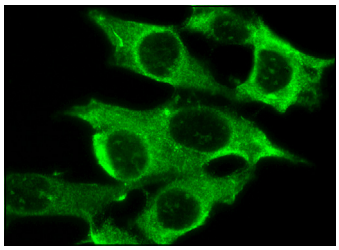
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Enolase (B-8): sc-271792. Western blot analysis of Enolase expression in Y79 whole cell lysate.



Enolase (B-8): sc-271792. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Li, Z., et al. 2012. Early proteome analysis of rat pancreatic acinar AR42J cells treated with taurolithocholic acid 3-sulfate. Pancreatology 12: 248-256.

RESEARCH USE

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

CONJUGATES

See **Enolase (A-5): sc-271384** for Enolase antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.