# β Enolase (h2): 293T Lysate: sc-170445



The Power to Question

## **BACKGROUND**

Enolases have been characterized as highly conserved cytoplasmic glycolytic enzymes that may be involved in differentiation. Three isoenzymes have been identified:  $\alpha$  Enolase,  $\beta$  Enolase and  $\gamma$  Enolase.  $\alpha$  Enolase expression has been detected in most tissues, whereas  $\beta$  Enolase is expressed predominantly in muscle tissue and  $\gamma$  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.  $\beta$  Enolase, also known as Enolase 3 or MSE (muscle-specific Enolase), localizes to the cytoplasm and is expressed as a homodimer or a heterodimer with  $\alpha$  Enolase in adult skeletal muscle. Mutations in the gene encoding  $\beta$  Enolase may result in glycogenesis type XIII (muscle-specific  $\beta$  Enolase deficiency), a disorder characterized by fatigability, muscle weakness and exercise-induced myalgia (or muscle pain).

## **REFERENCES**

- 1. Chen, S.H. and Giblett, E.R. 1976. Enolase: human tissue distribution and evidence for three different loci. Ann. Hum. Genet. 39: 277-280.
- 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.
- 3. Verma, M., et al. 1994. DNA sequences encoding Enolase are remarkably conserved from yeast to mammals. Life Sci. 55: 893-899.
- 4. Keller, A., et al. 1994. Coexpression of  $\alpha$  and  $\gamma$  Enolase genes in neurons of adult rat brain. J. Neurosci. Res. 38: 493-504.
- 5. Zhang, E., et al. 1997. Mechanism of Enolase: the crystal structure of asymmetric dimer Enolase-2-phospho-D glycerate/Enolase-phosphenolpyruvate at 2.0 A resolution. Biochemistry 36: 12526-12534.
- 6. Deloulme, J.C., et al. 1997. A comparative study of the distribution of  $\alpha$  and  $\gamma$  Enolase subunits in cultured rat neural cells and fibroblasts. Int. J. Dev. Neurosci. 15: 183-194.
- 7. 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.
- Comi, G.P., et al. 2001. β-Enolase deficiency, a new metabolic myopathy of distal glycolysis. Ann. Neurol. 50: 202-207.
- 9. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 131370. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

## CHROMOSOMAL LOCATION

Genetic locus: ENO3 (human) mapping to 17p13.2.

# **PRODUCT**

 $\beta$  Enolase (h2): 293T Lysate represents a lysate of human  $\beta$  Enolase transfected 293T cells and is provided as 100  $\mu g$  protein in 200  $\mu l$  SDS-PAGE buffer.

#### **APPLICATIONS**

 $\beta$  Enolase (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive  $\beta$  Enolase antibodies. Recommended use: 10-20  $\mu l$  per lane

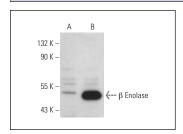
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

 $\beta$  Enolase (XX-10): sc-100811 is recommended as a positive control antibody for Western Blot analysis of enhanced human  $\beta$  Enolase expression in  $\beta$  Enolase transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

#### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG $\kappa$  BP-HRP: sc-516102 or m-lgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## **DATA**



 $\beta$  Enolase (XX-10): sc-100811. Western blot analysis of  $\beta$  Enolase expression in non-transfected: sc-117752 (A) and human  $\beta$  Enolase transfected: sc-170445 (B) 293T whole cell lysates.

## **STORAGE**

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## **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.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3800 fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com