SANTA CRUZ BIOTECHNOLOGY, INC.

β Enolase (XX-10): sc-100811

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 in 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. β 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 α Enolase in adult skeletal muscle. Mutations in the gene encoding β Enolase may result in glycogenesis type XIII (muscle-specific β Enolase deficiency), a disorder characterized by fatigability, muscle weakness and exercise-induced myalgia (or muscle pain).

CHROMOSOMAL LOCATION

Genetic locus: ENO3 (human) mapping to 17p13.2; Eno3 (mouse) mapping to 11 B3.

SOURCE

β Enolase (XX-10) is a mouse monoclonal antibody raised against recombinant β Enolase of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

β Enolase (XX-10) is recommended for detection of β Enolase (muscle) of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for β Enolase siRNA (h): sc-37043, β Enolase siRNA (m): sc-37044, β Enolase shRNA Plasmid (h): sc-37043-SH, β Enolase shRNA Plasmid (m): sc-37044-SH, β Enolase shRNA (h) Lentiviral Particles: sc-37043-V and β Enolase shRNA (m) Lentiviral Particles: sc-37044-V.

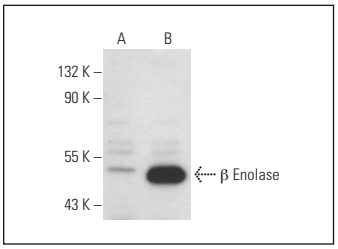
Molecular Weight of β Enolase: 47 kDa.

Positive Controls: β Enolase (h2): 293T Lysate: sc-170445, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

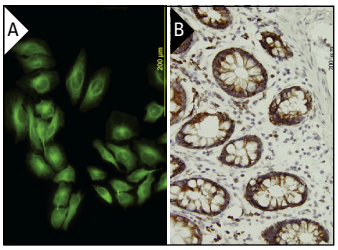
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



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



β Enolase (XX-10): sc-100811. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon tissue showing cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Perdomo, A.B., et al. 2012. Liver protein profiling in chronic hepatitis C: identification of potential predictive markers for interferon therapy outcome. J. Proteome Res. 11: 717-727.
2. Theron, L., et al. 2013. Proteomic analysis of duck fatty liver during post-mortem storage related to the variability of fat loss during cooking of "foie gras". J. Agric. Food Chem. 61: 920-930.
3. Dai, J., et al. 2018. α Enolase regulates the malignant phenotype of pulmonary artery smooth muscle cells via the AMPK-Akt pathway. Nat. Commun. 9: 3850.
4. Watanabe, S., et al. 2022. Skeletal muscle releases extracellular vesicles with distinct protein and microRNA signatures that function in the muscle microenvironment. PNAS Nexus 1: pgac173.
5. Hou, Y., et al. 2023. METTL14 modulates glycolysis to inhibit colorectal tumorigenesis in p53-wild-type cells. EMBO Rep. 24: e56325.

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.