Cor Enolase 1 Mouse Monclonal Antibody Biotechnology Inc.

MCA-253

Species Cross-Reactivity

Ordering Information Web www.encorbio.com Email admin@encorbio.com Phone 352-372-7022 Fax 352-372-7066

HGNC Name: ENO1 UniProt: Q9XSJ4 RRID: AB 2572307 Immunogen: N-terminal 12 amino acids of bovine enolase 1

Format: Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN₃

Storage: Store at 4°C for short term, for longer term at -20°C

Recommended dilutions: WB: 1:5,000-1:10,000 IF/ICC: 1:2,000-1:5,000. IHC: 1:1,000

References:

1. Wu W, et al. Identification and validation of metastasis-associated proteins in head and neck cancer cell lines by two-dimensional electrophoresis and mass spectrometry. Clin Exp Metastasis.9(4):319-26 (2002). Clin Exp Metastasis. 19:319-26 (2002).

2. Tu SH, et al. Increased expression of enolase alpha in human breast cancer confers tamifer resistant in human breast cancer cells. Breast Cancer Res. Treat. 121:539-53 (2010).

3. Marangos PJ, Schmechel DE, Parma AM, Goodwin FK. Developmental profile of neuronspecific (NSE) and non-neuronal (NNE) enolase. Brain Res. 190:185-93 (1980).

4. Smith WC. et al. Interaction of arrestin with enolase 1 in photoreceptor. Invest Ophthalmol Vis Sci. 52:1832-40 (2011).

5. Tam JP, Zavala F.J. Multiple antigen peptide. A novel approach to increase detection sensitivity of synthetic peptides in solid-phase immunoassays. J. Immunol Methods. 124:53-61 (1989)



lgG1 47kDa Hu, Rt, Ms, Bo, Po, Ho

Immunofluorescent analysis of HeLa cells stained with mouse mAb

to α -enolase, MCA-253, dilution 1:500 in green and costained with

blue is DAPI staining of nuclear DNA. The MCA-253 antibody reveals

chicken pAb to HSP60, CPCA-HSP60, dilution 1:5,000, in red. The

strong cytoplasmic staining while the chicken HSP60 antibody

Molecular Wt.

Western blot analysis of different cell lysates using mouse mAb to $\alpha\text{-}$ enolase, MCA-253, dilution 1:10,000 in green: [1] protein standard (red), [2] NIH-3T3 I, [3] C6, [4] HEK293, [5] HeLa, and [6] SH-SY5Y cells. A strong single band at 47kDa corresponds to the α -enolase protein.

Background:

specifically labels mitochondria in these cells. Enolase 1 is an enzyme which catalyzes the conversion of 2-phosphoglycerate to phosphoenolpyruvate in the glycolytic pathway, and also the reverse reaction in gluconeogenesis. It is one of three mammalian enolases, which closely are related in protein sequence (see here), and have different cell type specific expression patterns, so that antibodies to them are useful cell type specific markers. Enclase 1 is also known as α enclase and as non-neuronal enclase or NNE. Neuron specific enclase (NSE) corresponds to enclase 2 or γ enclase and is heavily expressed in neuronal cells. The third enolase, enolase 3 or β enolase, is expressed in muscle cells. Enolase 1 is expressed in most kinds of tissue, but is absent from neurons. Abnormal expression of enolase 1 is associated with tumor progression in some breast and head and neck cancer (1,2). We also market antibodies

Isotype

occurs in the development of neurons (3). The MCA-253 antibody was made against the N-terminal 12 amino acids of enolase 1, the sequence MSILKLVAREIF formed into an 8 armed MAP construct using the procedure of Tam et al. (4). This produces a dendrimer presenting 8 peptides to the immune system obviating the need for coupling to KLH or other carrier protein. The antibody works well for western blotting and for IF, ICC and IHC (for IHC see data under "Additional Info" tab). The production and characterization of this antibody has been described in peer reviewed form, showing specificity of enolase 1 and no binding to enolase 2 and enolase 3 (5). We also supply polyclonal antibodies to NSE made in rabbit and chicken, RPCA-NSE and CPCA-NSE.

directed against neuronal specific enolase, RPCA-NSE. A switch from enolase 1 to NSE expression

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Abbreviation Key:

mAb—Monoclonal Antibody pAb—Polyclonal Antibody WB—Western Blot IF—Immunofluorescence ICC—Immunocytochemistry IHC—Immunohistochemistry E—ELISA Hu—Human Mo—Monkey Do—Dog Rt—Rat Ms—Mouse Co—Cow Pi—Pig Ho—Horse Ch—Chicken Dr-D. rerio Dm-D. melanogaster Sm-S. mutans Ce-C. elegans Sc-S. cerevisiae Sa-S. aureus Ec-E. coli.