Aldolase C
Mouse Monoclonal Antibody

MCA-4A9

Ordering Information
Web www.encorbio.com
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HGNC name: ALDOC
RRID: AB_2571880
Immunogen: N-terminal sequence MPHSYPALSAEQKKELSDIA
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. Avoid freeze / thaw cycles.
Recommended dilutions:
WB: 1:2,000. IF/ICC or IHC: 1:1,000.

References:

Applications
Host
Isotype
Molecular Wt.
Species Cross-Reactivity
WB, IIF/ICC, IHC
Mouse
IgG1
40kDa
Hu, Rt, Ms, Pi


Background:
Aldolases are important glycolytic cytosolic enzymes which catalyse the reversible conversion of fructose-1,6-bisphosphate to glyceraldehyde 3-phosphate. There are three aldolase isozymes coded by three distinct genes in mammals, namely aldolase A, B, and C. Aldolase A is heavily expressed in muscle enzyme and aldolase B is heavily expressed in liver-specific enzyme (1-5). In the adult, aldolase C is the brain-specific isozyme expressed in astrocytes and a few classes of neurons, notably Purkinje cells (4). Appropriate antibodies to aldolase C are therefore useful to identify astrocytes in cell culture and sections, and the enzyme may be over expressed in some forms of cancer (6). Recent studies also suggest that detection of aldolase C in blood may be a useful marker of the severity of traumatic brain injury (7).

The MCA-4A9 antibody was made against a recombinant construct including the peptide MPHSYPALSAEQKKELSDIA, which is the N-terminal peptide of human aldolase C. Since the three aldolase enzymes are quite similar in amino acid sequence many available antibodies to one protein often have undocumented cross-reactivity with the other two. However we have used appropriate recombinant constructs to show that MCA-4A9 is completely specific for aldolase C with no reactivity with either aldolase A or B. Since we know the identity of the peptide used to generate MCA-4A9 is firmly mapped to the N-terminus of aldolase C, a region in which there is considerable variability between the three aldolase enzymes.

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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 Ci—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.