10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

IDH3B Antibody (monoclonal) (M01)

Mouse monoclonal antibody raised against a partial recombinant IDH3B.
Catalog # AT2480a

Product Information

Application	E
Primary Accession	O43837
Other Accession	NM_006899
Reactivity	Human
Host	mouse
Clonality	monoclonal
Isotype	IgG3 Kappa
Clone Names	3A10
Calculated MW	42184

Additional Information

Gene ID	3420
Other Names	Isocitrate dehydrogenase [NAD] subunit beta, mitochondrial, Isocitric dehydrogenase subunit beta, NAD(+)-specific ICDH subunit beta, IDH3B
Target/Specificity	IDH3B (NP_008830, 296 a.a. ~ 384 a.a) partial recombinant protein with GST tag. MW of the GST tag alone is 26 KDa.
Dilution	E~~N/A
Format	Clear, colorless solution in phosphate buffered saline, pH 7.2 .
Storage	Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.
Precautions	IDH3B Antibody (monoclonal) (M01) is for research use only and not for use in diagnostic or therapeutic procedures.

Background

Isocitrate dehydrogenases catalyze the oxidative decarboxylation of isocitrate to 2-oxoglutarate. These enzymes belong to two distinct subclasses, one of which utilizes NAD(+) as the electron acceptor and the other NADP(+). Five isocitrate dehydrogenases have been reported: three NAD(+)-dependent isocitrate dehydrogenases, which localize to the mitochondrial matrix, and two NADP(+)-dependent isocitrate dehydrogenases, one of which is mitochondrial and the other predominantly cytosolic. NAD(+)-dependent isocitrate dehydrogenases catalyze the allosterically regulated rate-limiting step of the tricarboxylic acid cycle. Each isozyme is a heterotetramer that is composed of two alpha subunits, one beta subunit, and one gamma subunit. The protein encoded by this gene is the beta subunit of one isozyme of NAD(+)-dependent isocitrate dehydrogenase. Three alternatively spliced transcript variants encoding different isoforms have been described for this gene.

References

Each conserved active site tyr in the three subunits of human isocitrate dehydrogenase has a different function. Dange M, et al. J Biol Chem, 2010 Jul 2. PMID 20435888.Neuro-oncology: Isocitrate dehydrogenase mutations in low-grade gliomas. Schiff D, et al. Nat Rev Neurol, 2009 Jun. PMID 19498431.Insights from retinitis pigmentosa into the roles of isocitrate dehydrogenases in the Krebs cycle. Hartong DT, et al. Nat Genet, 2008 Oct. PMID 18806796.Role of alpha-Asp181, beta-Asp192, and gamma-Asp190 in the distinctive subunits of human NAD-specific isocitrate dehydrogenase. Bzymek KP, et al. Biochemistry, 2007 May 8. PMID 17432878.Identification of Mn2+-binding aspartates from alpha, beta, and gamma subunits of human NAD-dependent isocitrate dehydrogenase. Soundar S, et al. J Biol Chem, 2006 Jul 28. PMID 16737955.