

#3997 Store at -20C

IDH1 Antibody

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: WB	Reactivity: H M	Sensitivity: Endogenous	MW (kDa): 46	Source: Rabbit	UniProt ID: #O75874	Entrez-Gene Id: 3417
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Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	IDH1 Antibody detects endogenous levels of total IDH1 protein. The antibody does not cross react with IDH2.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the N terminus of human IDH1. Antibodies were purified by protein A and peptide affinity chromatography.	
Background	IDH1 is one of three isocitrate dehydrogenases that catalyze the oxidative decarboxylation of isocitrate to α-ketoglutarate (α-KG). These enzymes exist in two distinct subclasses that utilize either NAD or NADP+ respectively, as an electron acceptor (1). IDH1 is the NADP+-dependent isocitrate dehydrogenase found in the cytoplasm and peroxisomes. IDH2 and 3 are mitochondrial enzymes that also function in the Krebs cycle. IDH1 is inactivated by phosphorylation at Ser113 and contains a clasp-like domain wherein both polypeptide chains in the dimer interlock (2,3). IDH1 is expressed in a wide range of species and also in organisms that lack a complete citric acid cycle. Mutations in IDH1 have been reported in glioblastoma (4), acute myeloid leukemia (5,6), and other malignancies (7). IDH1 appears to function as a tumor suppressor that, when mutationally inactivated, contributes to tumorigenesis in part through induction of the HIF-1 pathway (8).	
Background References	<ol style="list-style-type: none"> 1. Ramachandran, N. and Colman, R.F. (1980) <i>J Biol Chem</i> 255, 8859-64. 2. Bennett, P.M. and Holms, W.H. (1975) <i>J Gen Microbiol</i> 87, 37-51. 3. Hurley, J.H. et al. (1990) <i>Science</i> 249, 1012-6. 4. Bleeker, F.E. et al. (2009) <i>Hum Mutat</i> 30, 7-11. 5. Abbas, S. et al. (2010) <i>Blood</i> 116, 2122-6. 6. Paschka, P. et al. (2010) <i>J Clin Oncol</i> 28, 3636-43. 7. Watanabe, T. et al. (2009) <i>Am J Pathol</i> 174, 1149-53. 8. Zhao, S. et al. (2009) <i>Science</i> 324, 261-5. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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