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IDH1 Antibody

Store at -20C
#3997

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

Applications: W	Reactivity: H M	Sensitivity: Endogenous	MW (kDa): 46	Source/Isotype: 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

1. Ramachandran, N. and Colman, R.F. (1980) *J Biol Chem* 255, 8859-64.
2. Bennett, P.M. and Holms, W.H. (1975) *J Gen Microbiol* 87, 37-51.
3. Hurley, J.H. et al. (1990) *Science* 249, 1012-6.
4. Bleeker, F.E. et al. (2009) *Hum Mutat* 30, 7-11.
5. Abbas, S. et al. (2010) *Blood* 116, 2122-6.
6. Paschka, P. et al. (2010) *J Clin Oncol* 28, 3636-43.
7. Watanabe, T. et al. (2009) *Am J Pathol* 174, 1149-53.
8. Zhao, S. et al. (2009) *Science* 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

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse

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