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**IDH1 (D2H1) Rabbit mAb (PE Conjugate)**

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H M R Mk	Endogenous	Rabbit IgG	#O75874	3417
<b>Product Usage Information</b>	<b>Application</b>				<b>Dilution</b>
	Flow Cytometry (Fixed/Permeabilized)				1:50
<b>Storage</b>	Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.				
<b>Specificity/Sensitivity</b>	IDH1 (D2H1) Rabbit mAb (PE Conjugate) recognizes endogenous levels of total IDH1 protein. This antibody does not recognize endogenous IDH2 protein, but does recognize recombinant levels of IDH2.				
<b>Source / Purification</b>	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg222 of human IDH1 protein.				
<b>Description</b>	This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometric analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated IDH1 (D2H1) Rabbit mAb #8137.				
<b>Background</b>	IDH1 is one of three isocitrate dehydrogenases that catalyze the oxidative decarboxylation of isocitrate to $\alpha$ -ketoglutarate ( $\alpha$ -KG). These enzymes exist in two distinct subclasses that utilize either NAD or NADP <sup>+</sup> respectively, as an electron acceptor (1). IDH1 is the NADP <sup>+</sup> -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).				
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Ramachandran, N. and Colman, R.F. (1980) <i>J Biol Chem</i> 255, 8859-64.</li> <li>2. Bennett, P.M. and Holms, W.H. (1975) <i>J Gen Microbiol</i> 87, 37-51.</li> <li>3. Hurley, J.H. et al. (1990) <i>Science</i> 249, 1012-6.</li> <li>4. Bleeker, F.E. et al. (2009) <i>Hum Mutat</i> 30, 7-11.</li> <li>5. Abbas, S. et al. (2010) <i>Blood</i> 116, 2122-6.</li> <li>6. Paschka, P. et al. (2010) <i>J Clin Oncol</i> 28, 3636-43.</li> <li>7. Watanabe, T. et al. (2009) <i>Am J Pathol</i> 174, 1149-53.</li> <li>8. Zhao, S. et al. (2009) <i>Science</i> 324, 261-5.</li> </ol>				
<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).				
<b>Applications Key</b>	<b>FC-FP:</b> Flow Cytometry (Fixed/Permeabilized)				
<b>Cross-Reactivity Key</b>	<b>H:</b> Human <b>M:</b> Mouse <b>R:</b> Rat <b>Mk:</b> Monkey				
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