

#2072 Store at -20°C

Histone Deacetylase 4 (HDAC4) Antibody



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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	140	Rabbit	#P56524	9759

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	Histone Deacetylase 4 (HDAC4) Antibody detects endogenous levels of total HDAC4 protein. This antibody detects only HDAC4 protein; it does not cross-react with other HDAC proteins.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding amino acid 10 of human HDAC4. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	Acetylation of the histone tail causes chromatin to adopt an "open" conformation, allowing increased accessibility of transcription factors to DNA. The identification of histone acetyltransferases (HATs) and their large multiprotein complexes has yielded important insights into how these enzymes regulate transcription (1,2). HAT complexes interact with sequence-specific activator proteins to target specific genes. In addition to histones, HATs can acetylate nonhistone proteins, suggesting multiple roles for these enzymes (3). In contrast, histone deacetylation promotes a "closed" chromatin conformation and typically leads to repression of gene activity (4). Mammalian histone deacetylases can be divided into three classes on the basis of their similarity to various yeast deacetylases (5). Class I proteins (HDACs 1, 2, 3, and 8) are related to the yeast Rpd3-like proteins, those in class II (HDACs 4, 5, 6, 7, 9, and 10) are related to yeast Hda1-like proteins, and class III proteins are related to the yeast protein Sir2. Inhibitors of HDAC activity are now being explored as potential therapeutic cancer agents (6,7).	
Background References	<ol style="list-style-type: none"> Marmorstein, R. (2001) <i>Cell Mol Life Sci</i> 58, 693-703. Gregory, P.D. et al. (2001) <i>Exp Cell Res</i> 265, 195-202. Liu, Y. et al. (2000) <i>Mol Cell Biol</i> 20, 5540-53. Cress, W.D. and Seto, E. (2000) <i>J Cell Physiol</i> 184, 1-16. Gray, S.G. and Ekström, T.J. (2001) <i>Exp Cell Res</i> 262, 75-83. Thiagalingam, S. et al. (2003) <i>Ann. N.Y. Acad. Sci.</i> 983, 84-100. Vigushin, D.M. and Coombes, R.C. (2004) <i>Curr Cancer Drug Targets</i> 4, 205-18. 	

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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