

#2545 Store at **-20°C**

HDAC2 Antibody (IP Preferred)



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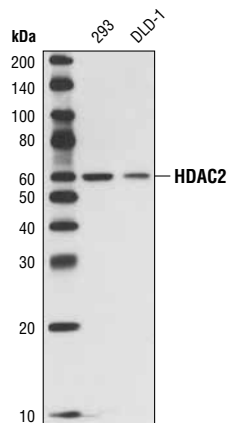
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, Mk	60 kDa	Rabbit**

Background: Acetylation of the histone tail causes chromatin to adopt an "open" conformation, allowing trans factors increased accessibility to DNA. The identification of histone acetyltransferases (HATs) and their large multi-protein complexes has yielded important insights into how these enzymes regulate transcription (1,2). HAT complexes interact with sequence-specific activator proteins and target specific genes. In addition to histones, HATs can acetylate non-histone proteins, suggesting multiple roles for these enzymes (3). In contrast, histone deacetylation promotes a "closed" chromatin conformation and, in general, 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 (HDACs 1, 2, 3 and 8) is related to the yeast Rpd3-like proteins, class II (HDACs 4, 5, 6, 7, 9 and 10) is related to yeast Hda1-like proteins and class III is related to the yeast protein Sir2. Inhibitors of HDAC activity are now being explored as potential cancer therapeutic agents (6,7).

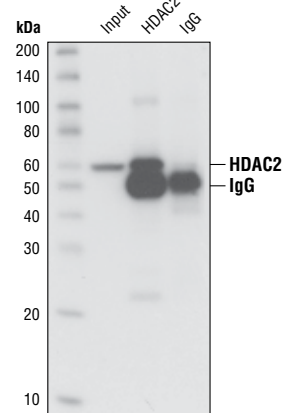
HDAC1 and HDAC2 are highly homologous and are involved in histone deacetylation, chromatin remodeling and transcriptional repression (8–10). Both proteins are found together in numerous complexes including the nucleosome remodeling and deacetylation complex (NuRD), MeCP1, and the mSin3A corepressor complex.

Specificity/Sensitivity: HDAC2 Antibody (IP Preferred) detects endogenous levels of total HDAC2 protein and is the preferred antibody for immunoprecipitation. The antibody does not cross-react with other HDAC proteins.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to the carboxy terminus of the human HDAC2 protein. Antibodies are purified by peptide affinity chromatography.



Western blot analysis of extracts from 293 and DLD-1 cells using HDAC2 Antibody (IP Preferred).



Immunoprecipitation/Western blot analysis of extracts from 293 cells. Lane 1 contains lysate input (5%), lane 2 was immunoprecipitated with HDAC2 Antibody (IP Preferred) and lane 3 was immunoprecipitated with non-specific rabbit IgG. Western blot analysis was performed using HDAC2 Antibody (IP Preferred).

Entrez-Gene ID # 3066
Swiss-Prot Acc. # Q92769

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.

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

- (1) Marmorstein, R. et al. (2001) *Cell. Mol. Life Sci.* 58, 693–703.
- (2) Gregory, P.D. et al. (2001) *Exp. Cell Res.* 265, 195–202.
- (3) Liu, Y. et al. (2000) *Mol. Cell. Biol.* 20, 5540–5543.
- (4) Cress, S.D. and Seto, E. (2000) *J. Cell. Physiol.* 184, 1–16.
- (5) Gray, S.G. and Ekstrom, T.J. (2001) *Exp. Cell Res.* 262, 75–83.
- (6) Thiagalingam, S. et al. (2003) *Ann. N. Y. Acad. Sci.* 983, 84–100.
- (7) Viguishin, D.M. and Coombes, R.C. (2004) *Curr. Cancer Drug Targets* 4, 205–218.
- (8) Zhang, Y. et al. (1999) *Genes Dev.* 13, 1924–1935.
- (9) Ng, H.H. et al. (1999) *Nat. Genet.* 23, 58–61.
- (10) Zhang, Y. et al. (1997) *Cell* 89, 357–364.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.