

# PRODUCT INFORMATION



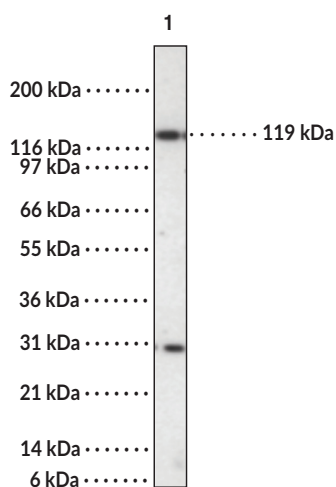
## HDAC4 Polyclonal Antibody

Item No. 13494

### Overview and Properties

<b>Contents:</b>	This vial contains 100 µg of protein G-affinity purified polyclonal antibody.
<b>Synonym:</b>	Histone Deacetylase 4
<b>Immunogen:</b>	Synthetic peptide corresponding to amino acids 194-209 of human HDAC4
<b>Cross Reactivity:</b>	(+) HDAC4
<b>Species Reactivity:</b>	(+) Human, mouse; other species not tested
<b>Molecular Weight:</b>	119 kDa
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS with 0.05% BSA and 0.05% sodium azide
<b>Host:</b>	Rabbit
<b>Applications:</b>	Chromatin immunoprecipitation, immunoprecipitation, and Western blot (WB); the recommended starting concentration for WB is 0.5-2 µg/ml. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Image



Lane 1: Jurkat cell lysate

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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**CAYMAN CHEMICAL**  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

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## Description

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Histone deacetylase 4 (HDAC4) is a zinc-dependent metalloenzyme and class IIa HDAC.<sup>1</sup> It is composed of an N-terminal regulatory domain, which contains a myocyte-specific enhancer factor 2 (MEF2) binding site, three 14-3-3 binding sites, a nuclear localization signal, and a caspase-3 cleavage site, a catalytic domain, and a C-terminal domain that contains a nuclear export signal. HDAC4 shuttles between the cytoplasm and nucleus and is mainly expressed in skeletal muscle, brain, ovaries, and colon but is also found in the small intestine, heart, kidney, testis, thymus, and leukocytes.<sup>2,3</sup> It acts as a transcriptional corepressor and has many binding partners, including the transcription factors MEF2 and RUNX family transcription factor 2 (RUNX2).<sup>1,4</sup> Knockout of *Hdac4* induces premature ossification and chondrocyte hypertrophy in mice.<sup>4</sup> Mutations in *HDAC4* are associated with brachydactyly-mental retardation syndrome, a disorder characterized by brachydactyly type E, intellectual disability, and facial dysmorphisms.<sup>5</sup> Cayman's HDAC4 Polyclonal Antibody can be used for immunoprecipitation (IP), ChIP, and Western blot (WB) applications. The antibody recognizes HDAC4 at 119 kDa from human samples.

## References

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1. Yang, X.J. and Grégoire, S. Class II histone deacetylases: From sequence to function, regulation, and clinical implication. *Mol. Cell. Biol.* **25(8)**, 2873-2884 (2005).
2. Wang, A.H., Kruhlak, M.J., Wu, J., *et al.* Regulation of histone deacetylase 4 by binding of 14-3-3 proteins. *Mol. Cell. Biol.* **20(18)**, 6904-6912 (2000).
3. Wang, A.H., Bertos, N.R., Vezmar, M., *et al.* HDAC4, a human histone deacetylase related to yeast HDA1, is a transcriptional corepressor. *Mol. Cell. Biol.* **19(11)**, 7816-7827 (1999).
4. Vega, R.B., Matsuda, K., Oh, J., *et al.* Histone deacetylase 4 controls chondrocyte hypertrophy during skeletogenesis. *Cell* **119(4)**, 555-566 (2004).
5. Wakeling, E., McEntagart, M., Bruccoleri, M., *et al.* Missense substitutions at a conserved 14-3-3 binding site in HDAC4 cause a novel intellectual disability syndrome. *HGG Adv.* **2(1)**, 100015 (2021).

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
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