

## Product datasheet for **AP11127PU-N**

### HDAC4 (C-term) Rabbit Polyclonal Antibody

#### Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	ELISA: 1/1,000. Western Blot: 1-100-1/500.
Reactivity:	Human, Mouse
Host:	Rabbit
Isotype:	Ig
Clonality:	Polyclonal
Immunogen:	This antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide selected from the C-terminal region of human HDAC4.
Specificity:	This antibody is specific to HDAC4 (C-term).
Formulation:	PBS containing 0.09% (W/V) Sodium Azide as preservative. State: Purified State: Liquid purified Ig fraction.
Concentration:	lot specific
Purification:	Protein G Chromatography, eluted with high and low pH buffers and neutralized immediately, followed by dialysis against PBS.
Conjugation:	Unconjugated
Storage:	Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Gene Name:	histone deacetylase 4
Database Link:	<a href="#">Entrez Gene 9759 Human P56524</a>

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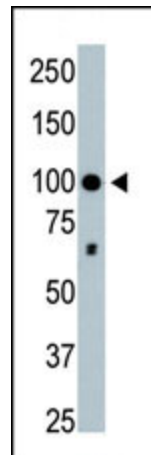
## Background:

DNA is wrapped around histone proteins to form nucleosomes and chromatin fiber, a higher-order structure. Chromatin can become alternatively revealed to or concealed from transcription factors. Acetylation of lysine residues induces conformational changes in core histones by destabilizing nucleosomes and allowing transcription factors access to recognition elements in DNA. Deacetylation of histones by histone deacetylases (HDACs) reseals the chromosomal package, leading to a repression of transcription. HDAC4 does not bind DNA directly, but rather through MEF2C and MEF2D. Binding of the N terminus of HDAC4 to MEF2C represses MEF2C transcription activity. The catalytic domain of HDAC4 interacts with HDAC3 via the transcriptional corepressor NCOR2. Experimental conditions leading to the suppression of HDAC4 binding to NCOR2 and to HDAC3 result in loss of enzymatic activity associated with HDAC4, indicating regulation of transcription by bridging the enzymatically active NCOR2-HDAC3 complex and select transcription factors. HDAC4 and MITR contain calmodulin-binding domains that overlap with their MEF2 binding domains. Binding of calmodulin to HDAC4 leads to its dissociation from MEF2, relieving MEF2 from the transcriptional repression by HDAC4. Together, HDAC4, MITR, and CABIN1 constitute a family of calcium-sensitive transcriptional repressors of MEF2. In murine studies, HDAC4, which is expressed in prehypertrophic chondrocytes, interacts with and inhibits the activity of Runx2 in mice, a transcription factor necessary for chondrocyte hypertrophy, establishing HDAC4 as a central regulator of chondrocyte hypertrophy and skeletogenesis.

## Synonyms:

Histone deacetylase 4, HD4, KIAA0288

## Product images:



Western blot analysis of anti-HDAC4 Pab to detect HDAC4 in mouse brain tissue lysate.