

DESCRIPTION

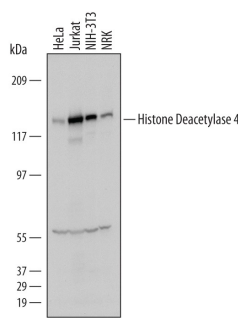
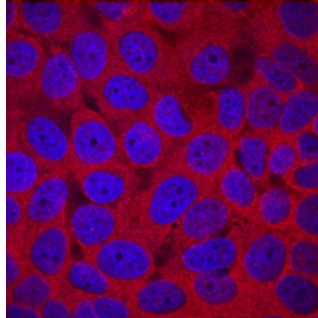
Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse, and rat Histone Deacetylase 4/HDAC4 in Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Histone Deacetylase 4/HDAC4 Met1-Gln68 Accession # P56524
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	See Below

DATA

Western Blot	Immunocytochemistry
 <p>Detection of Human, Mouse, and Rat Histone Deacetylase 4/HDAC4 by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line, Jurkat human acute T cell leukemia cell line, NIH-3T3 mouse embryonic fibroblast cell line, and NRK rat normal kidney cell line. PVDF Membrane was probed with 1 µg/mL of Human/Mouse/Rat Histone Deacetylase 4/HDAC4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6205) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Histone Deacetylase 4/HDAC4 at approximately 140 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	 <p>Histone Deacetylase 4/HDAC4 in MCF-7 Human Cell Line. Histone Deacetylase 4/HDAC4 was detected in immersion fixed MCF-7 human breast cancer cell line using Sheep Anti-Human/Mouse/Rat Histone Deacetylase 4/HDAC4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6205) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Histone Deacetylase 4 (HDAC4; also HD4) is a founding member of the class IIa subfamily, histone deacetylase family of transcriptional regulators. Although its predicted MW is 119 kDa, it runs anomalously at 140-150 kDa in SDS-PAGE which may be due to extensive phosphorylation plus SUMOylation. It has an N-terminal region that interacts with transcription factors and corepressors, and a C-terminal domain that shows deacetylase activity, thus repressing gene transcription. HDAC4 is found in osteoblasts, cardiac and skeletal muscle cells, and neurons. Human HDAC4 is 1084 amino acids (aa) in length. It contains one coiled-coil region (aa 67-177), a SUMOylation site at Lys559, a histone deacetylation domain (aa 665-993) and one NES (aa 1051-1084). Caspase cleavage after Asp289 generates bioactive 97 and 34 kDa fragments. There is one potential splice variant that shows an alternative start site at Met118 coupled to a five aa insertion after Thr431. Over aa 1-68, human HDAC4 shares 96% aa identity with mouse HDAC4.