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KD-Validated Anti-HDAC3 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1847

Specification

KD-Validated Anti-HDAC3 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	O15379
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 49 kDa , observed, 49 kDa KDa**
Gene Name	**HDAC3**
Aliases	**Histone Deacetylase 3; RPD3-2; HD3 KDAC3; RPD3; Protein Deacetylase HDAC3; Protein Deacylase HDAC3; EC 3.5.1.98; SMAP45; EC 3.5.1.-**
Immunogen	**A synthesized peptide derived from human HDAC3**

KD-Validated Anti-HDAC3 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**8841**

Other Names
Histone deacetylase 3, HD3, 3.5.1.98, Protein deacetylase HDAC3, 3.5.1.-, Protein deacylase HDAC3, 3.5.1.-, RPD3-2, SMAP45, HDAC3

KD-Validated Anti-HDAC3 Rabbit Monoclonal Antibody - Protein Information

Name HDAC3

Function
Histone deacetylase that catalyzes the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4), and some other non-histone substrates (PubMed:21030595, PubMed:21444723, PubMed:23911289, PubMed:25301942, PubMed:28167758, PubMed:28497810, PubMed:32404892, PubMed:22230954). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events (PubMed:23911289). Histone deacetylases act via the formation of large multiprotein complexes, such as N-Cor repressor complex, which activate the histone deacetylase activity (PubMed:23911289, PubMed:<a

href="http://www.uniprot.org/citations/22230954" target="_blank">22230954). Participates in the BCL6 transcriptional repressor activity by deacetylating the H3 'Lys-27' (H3K27) on enhancer elements, antagonizing EP300 acetyltransferase activity and repressing proximal gene expression (PubMed:23911289). Acts as a molecular chaperone for shuttling phosphorylated NR2C1 to PML bodies for sumoylation (By similarity). Contributes, together with XBP1 isoform 1, to the activation of NFE2L2-mediated HMOX1 transcription factor gene expression in a PI(3)K/mTORC2/Akt-dependent signaling pathway leading to endothelial cell (EC) survival under disturbed flow/oxidative stress (PubMed:25190803). Regulates both the transcriptional activation and repression phases of the circadian clock in a deacetylase activity-independent manner (By similarity). During the activation phase, promotes the accumulation of ubiquitinated BMAL1 at the E-boxes and during the repression phase, blocks FBXL3-mediated CRY1/2 ubiquitination and promotes the interaction of CRY1 and BMAL1 (By similarity). The NCOR1-HDAC3 complex regulates the circadian expression of the core clock gene BMAL1 and the genes involved in lipid metabolism in the liver (By similarity). Also functions as a deacetylase for non-histone targets, such as KAT5, MEF2D, MAPK14, RARA and STAT3 (PubMed:15653507, PubMed:21030595, PubMed:21444723, PubMed:25301942, PubMed:28167758). Serves as a corepressor of RARA, mediating its deacetylation and repression, leading to inhibition of RARE DNA element binding (PubMed:28167758). In association with RARA, plays a role in the repression of microRNA-10a and thereby in the inflammatory response (PubMed:28167758). In addition to protein deacetylase activity, also acts as a protein-lysine deacylase by recognizing other acyl groups: catalyzes removal of (2E)-butenoyl (crotonyl), lactoyl (lactyl) and 2-hydroxyisobutanoyl (2- hydroxyisobutyryl) acyl groups from lysine residues, leading to protein decrotonylation, delactylation and de-2-hydroxyisobutyrylation, respectively (PubMed:28497810, PubMed:29192674, PubMed:34608293, PubMed:35044827). Catalyzes decrotonylation of MAPRE1/EB1 (PubMed:34608293). Mediates delactylation NBN/NBS1, thereby inhibiting DNA double-strand breaks (DSBs) via homologous recombination (HR) (PubMed:38961290).

Cellular Location
Nucleus. Chromosome. Cytoplasm. Cytoplasm, cytosol. Note=Colocalizes with XBP1 and AKT1 in the cytoplasm (PubMed:25190803). Predominantly expressed in the nucleus in the presence of CCAR2 (PubMed:21030595)

Tissue Location
Widely expressed..

KD-Validated Anti-HDAC3 Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot

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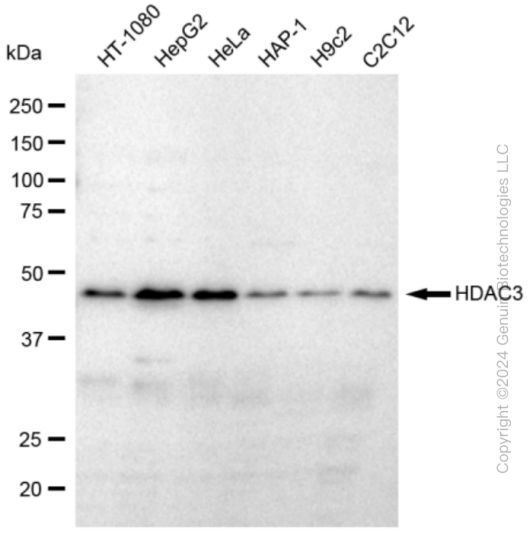
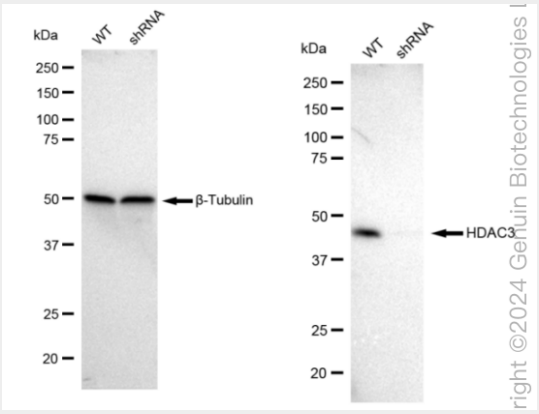
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-HDAC3 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-HDAC3 antibody (Cat#AGI1847). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-HDAC3 antibody (Cat#AGI1847, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-HDAC3 antibody (Cat#AGI1847). HDAC3 expression in wild type (WT) and HDAC3 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-HDAC3 antibody (Cat#AGI1847, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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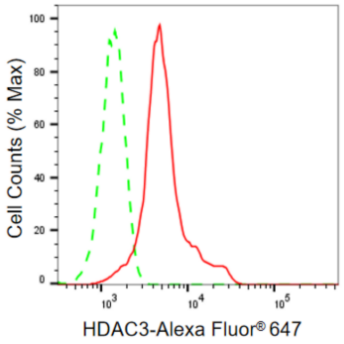
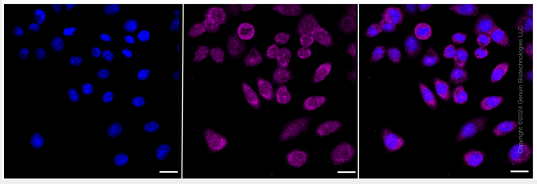


Flow cytometric analysis of HDAC3 expression in HepG2 cells using HDAC3 antibody (Cat#AGI1847,1:2,000). Green, isotype control; red, HDAC3.



Immunocytochemical staining of HepG2 cells with HDAC3 antibody (Cat#AGI1847, 1:1,000). Nuclei were stained blue with DAPI; HDAC3 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: High. Scale bar: 20 µm.