

AbFlex[®] HDAC2 antibody (rAb)

Catalog Nos: 91197, 91198

RRID: AB_2793799

Isotype: IgG2a

Application(s): ChIP-Seq, WB

Reactivity: Human

Quantities: 100 µg, 10 µg

Purification: Protein A Chromatography

Host: Mouse

Concentration: 1 µg/µl

Molecular Weight: 55 kDa

Background: AbFlex[®] antibodies are recombinant antibodies (rAbs) that have been generated using defined DNA sequences to produce highly specific, reproducible antibodies. Each AbFlex antibody contains a 6xHis Tag, a Biotinylation Tag for enzymatic biotin conjugation using the biotin ligase, BirA, and a sortase recognition motif (LPXTG) to attach a variety of labels directly to the antibody including fluorophores, enzymatic substrates (HRP, AP), peptides, drugs as well as solid supports.

HDAC2 (Histone Deacetylase 2, also designated mammalian RPD3) is a member of the class I mammalian histone deacetylases (HDACs) involved in regulating chromatin structure during transcription. These enzymes catalyze the removal of acetyl groups from lysine residues of histones and other cellular proteins. Lysine N-ε-acetylation is a dynamic, reversible and tightly regulated protein and histone modification that plays a major role in regulation of gene expression in various cellular functions. It consists of the transfer of an acetyl moiety from an acetyl coenzyme A to the ε-amino group of a lysine residue.

In vivo, acetylation is controlled by the antagonistic activities of histone acetyltransferases (HATs) and histone deacetylases (HDACs). The HDACs are grouped into four classes, on the basis of similarity to yeast counterparts: HDAC class I (HDAC1, HDAC2, HDAC3 and HDAC8), class II (HDAC4, HDAC5, HDAC6, HDAC7, HDAC9 and HDAC10), class III (SIRT1, SIRT2, SIRT3, SIRT4, SIRT5, SIRT6 and SIRT-7) and class IV (HDAC11).

HDAC2 is associated with many different proteins as YY1 (a mammalian zinc-finger transcription factor). HDAC2 also forms transcriptional repressor complexes containing, among others, HDAC1 or RBBP4. HDAC1, HDAC2 and HDAC3 are also ubiquitously expressed and can deacetylate both Histone H3 and Histone H4 in free histones or nucleosome substrate.

Immunogen: This antibody was raised against peptide corresponding to amino acids 473-488 of human HDAC2.

Buffer: Purified IgG in 140 mM Hepes, pH 7.5, 70 mM NaCl, 35 mM NaOAc, 0.07% sodium azide, 30% glycerol. Sodium azide is highly toxic.

Application Notes:

Applications Validated by Active Motif:

ChIP-Seq: 4 - 10 µg per ChIP

WB*: 0.2-2 µg/ml

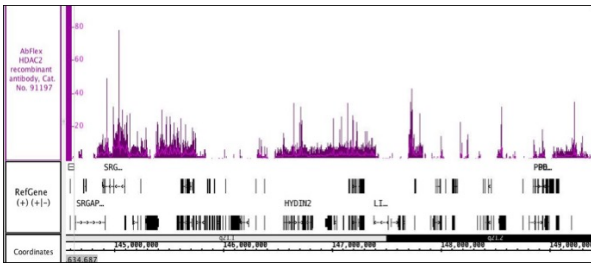
For optimal results, primary antibody incubations should be performed at room temperature. The addition of 0.1% Tween 20 to all blocking solutions may also reduce background. Individual optimization may be required.

*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western Blot.

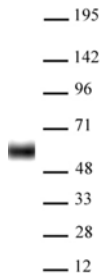
Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.

Application Key: ChIP = Chromatin Immunoprecipitation; FACS = Flow Cytometry; IF = Immunofluorescence; IHC = Immunohistochemistry; IP = Immunoprecipitation; WB = Western Blot



AbFlex[®] HDAC2 recombinant antibody (rAb) tested by ChIP-Seq
 Chromatin immunoprecipitation (ChIP) was performed using the ChIP-IT[®] High Sensitivity Kit (Cat. No. 53040) with 30 µg of chromatin from NCI-H1437 (human lung carcinoma cell line) chromatin and 4 µg HDAC2 antibody. ChIP DNA was sequenced on the Illumina HiSeq and 15.6 million sequence tags were mapped to identify HDAC2 binding sites on chromosome 1.



Western blot of AbFlex[®] HDAC2 antibody (rAb).

20 µg HeLa cell nuclear extract was run on SDS-PAGE and probed with 0.5 µg/ml AbFlex[®] HDAC2 antibody (rAb).

MW: 55 kDa