

APC206Mu01 100µg
Active Histone Deacetylase 1 (HDAC1)
Organism Species: *Mus musculus (Mouse)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Met1~Ala482

Tags: N-terminal His-tag

Purity: >90%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5%Trehalose .

Original Concentration: 200µg/mL

Applications: Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 5.2

Predicted Molecular Mass: 58.8kDa

Accurate Molecular Mass: 28&70kDa as determined by SDS-PAGE reducing conditions.

Phenomenon explanation:

The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

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MAQTQGTKRK VCYYYDGDVG NYYYGQGHPM KPHRIRMTHN LLLNYGLYRK
MEIYRPHKAN AEEMTKYHSD DYIKFLRSIR PDMSEYSKQ MQRFNVGEDC
PVFDGLFEFC QLSTGGSVAS AVKLNKQQT D IAVNWAGGLH HAKKSEASGF
CYVNDIVLAI LELLKYHQRV LYIDIDIHHG DGVEEAFYTT DRVMTVSFHK
YGEYFPGTGD LRDIGAGK GK YYAVNYPLRD GIDDES YEAI FKPVMSK VME
MFQPSAVVLQ CGSDSLSGDR LGCFNLTIKG HAKC VEFVKS FNL PMLMLGG
GGYTIRNVAR CWTYETAVAL DTEIPNELPY NDYFEYFGPD FKLHISPSNM
TNQNTNEYLE KIKQRLFENL RMLPHAPGVQ MQAIPEDAIP EESGDEDEED
PDKRISICSS DKRIACEEEF SDSDEEGEGG RKNSSNFKKA KRVKTEDEKE
KDPEEKKEVT EEEKTKEEKP EAKGVKEEVK LA
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[ACTIVITY]

Histone deacetylase 1 (HDAC1) is an enzyme which belongs to the histone deacetylase/acuc/apha family and is a component of the histone deacetylase complex. Histone acetylation and deacetylation, catalyzed by multisubunit complexes, play a key role in the regulation of eukaryotic gene expression. HDAC1 also interacts with retinoblastoma tumor-suppressor protein and this complex is a key element in the control of cell proliferation and differentiation. Besides, Specificity Protein 1 (Sp1) has been identified as an interactor of HDAC1,

thus a functional binding ELISA assay was conducted to detect the interaction of recombinant mouse HDAC1 and recombinant human Sp1. Briefly, HDAC1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul were then transferred to Sp1-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-HDAC1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 °C . Finally, add 50µL stop solution to the wells and read at 450 nm immediately. The binding activity of of recombinant mouse HDAC1 and recombinant human Sp1 was shown in Figure 1, and this effect was in a dose dependent manner.

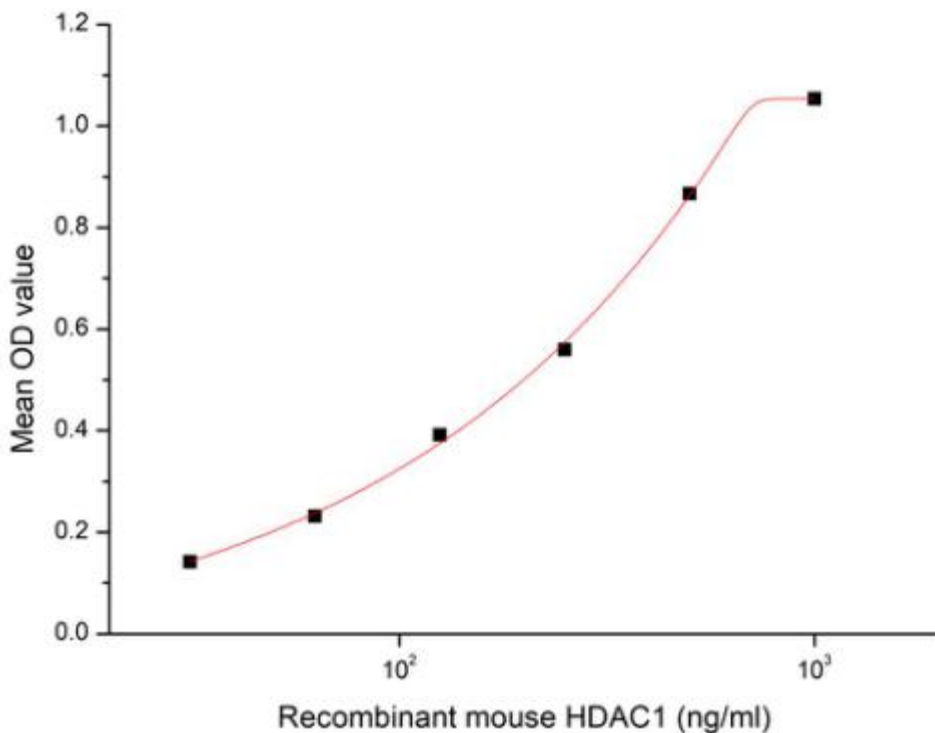


Figure 1. The binding activity of recombinant mouse HDAC1 with recombinant human Sp1

[IDENTIFICATION]

GAATTCGGCCGAGCCGCGCCGACCGGGAGMGCCTGCTCTCTAGCGGGATGTGGAAATTCATATATGGCGAGCCGACCGGACCTCCGAAATCCGATGCTCATATTTCTCTCTCACTATGTCCTCCGGAAATTTGGAAATCATATCCCGCGAGCGGATGCTGAGGGGATGCGAATGACCGGATGCTCATTAATTTCTTGGCCGCTATGGGCGT

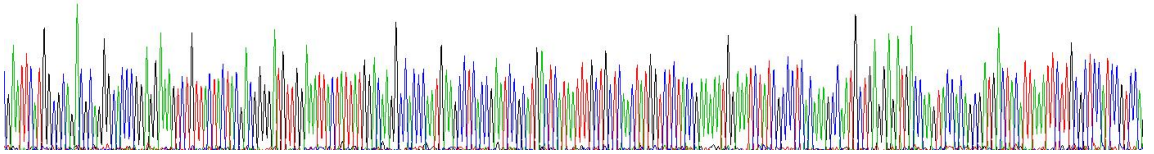


Figure 2. Gene Sequencing (extract)



Figure 3. SDS-PAGE

Sample: Active recombinant HDAC1, Mouse

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.