

Product datasheet

# HDAC Activity Assay Kit (colorimetric) ab1432

10 References 2 Images

Overview

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<b>Product name</b>	HDAC Activity Assay Kit (colorimetric)
<b>Detection method</b>	Colorimetric
<b>Assay type</b>	Quantitative
<b>Assay duration</b>	Multiple steps standard assay
<b>Species reactivity</b>	<b>Reacts with:</b> Mammals
<b>Product overview</b>	Inhibition of histone deacetylases (HDACs) has been implicated in the modulation of transcription and the induction of apoptosis or differentiation in cancer cells. However, screening HDAC inhibitory compounds has proven to be difficult over the past due to the lack of convenient tools for analyzing HDAC activity. The new Colorimetric HDAC Activity Assay Kit ab1432 provides a fast and convenient colorimetric method that eliminates radioactivity, extractions, or chromatography, as used in the traditional assays. The new method requires only two easy steps, both performed on the same microtiter plate. First, the HDAC colorimetric substrate, which comprises an acetylated lysine side chain, is incubated with a sample containing HDAC activity (e.g., HeLa nuclear extract or your own samples). Deacetylation of the substrate sensitizes the substrate, so that, in the second step, treatment with the Lysine Developer produces a chromophore. The chromophore can be easily analyzed using an ELISA plate reader or spectrophotometer. The assay is well suited for high throughput screening applications.
<b>Notes</b>	<p>Read the entire protocol (attached to the datasheet) before beginning the procedure.</p> <p>The HeLa extract should be refrozen immediately at -20 or -70°C after each use to avoid loss of activity. The Lysine Developer should be refrozen immediately at -20 or -70°C after each use or aliquotted for future use.</p> <p>This kit contains enough reagents for about 100 tests. If positive and negative controls are included, the kit provides sufficient reagents for 5 positive control assays with the HeLa Nuclear Extract and 5 Negative Control assays with the HDAC Inhibitor, Trichostatin A.</p>
<b>Tested applications</b>	<b>Suitable for:</b> Functional Studies
<b>Platform</b>	Microplate (12 x 8 well strips)

Properties

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**Storage instructions** Store at -80°C. Please refer to protocols.

Components	Identifier	96 tests
10X HDAC Assay Buffer	Green Cap	1 x 1ml
Deacetylated Standard (10 mM)	Yellow Cap	1 x 20µl
HDAC Inhibitor (Trichostatin A, 1 mM)	Blue Cap	1 x 10µl
HDAC Substrate	Amber Cap	1 x 500µl
HeLa Nuclear Extract (5 mg/mL)	Red Cap	1 x 50µl
Lysine Developer	Orange Cap	1 x 1ml

### Function

Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events. Histone deacetylases act via the formation of large multiprotein complexes. Deacetylates SP proteins, SP1 and SP3, and regulates their function. Component of the BRG1-RB1-HDAC1 complex, which negatively regulates the CREST-mediated transcription in resting neurons. Upon calcium stimulation, HDAC1 is released from the complex and CREBBP is recruited, which facilitates transcriptional activation. Deacetylates TSHZ3 and regulates its transcriptional repressor activity. Deacetylates 'Lys-310' in RELA and thereby inhibits the transcriptional activity of NF-kappa-B. Component a RCOR/GFI/KDM1A/HDAC complex that suppresses, via histone deacetylase (HDAC) recruitment, a number of genes implicated in multilineage blood cell development.

### Tissue specificity

Ubiquitous, with higher levels in heart, pancreas and testis, and lower levels in kidney and brain.

### Sequence similarities

Belongs to the histone deacetylase family. HD type 1 subfamily.

### Post-translational modifications

Sumoylated on Lys-444 and Lys-476; which promotes enzymatic activity. Desumoylated by SENP1.

Phosphorylation on Ser-421 and Ser-423 promotes enzymatic activity and interactions with NuRD and SIN3 complexes. Phosphorylated by CDK5.

Ubiquitinated by CHFR, leading to its degradation by the proteasome (By similarity).

Ubiquitinated by KCTD11, leading to proteasomal degradation.

### Cellular localization

Nucleus.

### Applications

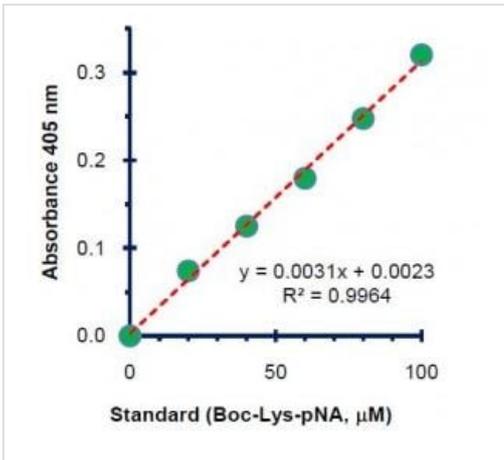
#### The Abpromise guarantee

Our [Abpromise guarantee](#) covers the use of ab1432 in the following tested applications.

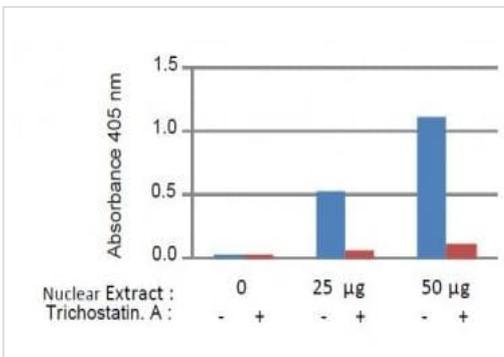
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Functional Studies		Use at an assay dependent concentration.

### Images



HDAC Activity Colorimetric Assay Kit Standard Curve



HDAC Activity Colorimetric Assay Kit Activity Assay

Different amount of nuclear extract (NE) were tested following kit protocol in the presence and absence of HDAC Inhibitor (Incubated for 4 hrs).

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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