

Recombinant human HDAC4 protein (Active) ab268614

[2 Images](#)

Description

Product name	Recombinant human HDAC4 protein (Active)
Biological activity	The specific activity of HDAC4 was determined to be 80 RLU/min/ng in a HDAC-Glo assay using HDAC4 substrate.
Purity	> 70 % SDS-PAGE. Affinity purified.
Expression system	Baculovirus infected Sf9 cells
Accession	<u>P56524</u>
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Sequence	

SRQHEAQLHEHIKQQQEMLAMKHQQELLEHQRKLERHRQ
 EQELEKQHREQ
 KLQQLKNKEKGKESAVASTEVKMKLQEFVLNKKKALAH
 NLNHCISSDPR
 YWYGKTQHSSLDQSSPPQSGVSTSYNHPVLGMYDAKDD
 FPLRKTASEPNL
 KLRSRLKQKVAERRSSPLLRRKDGPPVVTALKRPLDVT
 SACSSAPGSGP
 SSPNNSGSVSAENGIAPAVPSIPAETSLAHLVAREGSA
 APLPLYTSPS
 LPNITLGLPATGPSAGTAGQQDAERLTLPALQQRLSLFPG
 THLTPYLSTS
 PLERDGGAAHSPLLQHMLVLEQPPAQAPLVTGLGALPLH
 AQSLVGADRVS
 PSIHKLQRHRPLGRTQSAPLPQNAQALQHLVIQQQHQQFL
 EKHKQQFQQQ
 QLQMNKIIPKPSEPARQPESHPEETEEELREHQALLDEPY
 LDRLPGQKEA
 HAQAGVQVKQEPIESDEEEAEPPREVEPGQRQPSEQEL
 LFRQQALLLEQQ
 RIHQLRNYQASMEAAGIPVSFGGHRPLSRAQSSPASATFP
 VSVQEPPTKP
 RFTTGLVYDTLMLKHQCTCGSSSSHPEHAGRIQSIWSRLQ

ETGLRGKCEC
IRGRKATLEELQTVHSEAHTLLYGTNPLNRQKLD SKKLLGS
LASV FVRLP
CGGVGVSDSDTWNEVHSAGAARLAVGCVVELVFKVATG
ELKNGFAVVRPP
GHHAEESTPMGFCYFNSVAVAAKLLQQRLSVSKILMDWD
VHHGNGTQQA
FYSDPSVLYMSLHRYDDGNFFPGSGAPDEVGTGPGVGF
NVNMAFTGGLDP
PMGDAEYLAAFRTVVMPIASEFAPDVVLVSSGFDAVEGH
PTPLGGYNLSA
RCFGYLTQQLMGLAGGRVLALEGGHDLTAICDASEACVS
ALLGNELDPL
PEKVLQQRPNANAVRSMEKVM EHSKYWRCLQRTTSTAG
RSLIEAQTEN
EEAETVTAMASLSVGVKPAEKRPDEEPMEEEPPL

Molecular weight information	SDS-PAGE molecular weight: ~155kDa
Amino acids	101 to 1084
Tags	GST tag C-Terminus
Additional sequence information	GenBank: NM_006037

Specifications

Our **Abpromise guarantee** covers the use of **ab268614** in the following tested applications.

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

Applications	Functional Studies SDS-PAGE
Form	Liquid

Preparation and Storage

Stability and Storage	Shipped on Dry Ice. Upon delivery aliquot. Store at -80°C. Avoid freeze / thaw cycle. pH: 7.50 Constituents: 0.79% Tris HCl, 0.87% Sodium chloride, 0.31% Glutathione, 0.003% EDTA, 0.004% DTT, 0.002% PMSF, 25% Glycerol (glycerin, glycerine) This product is an active protein and may elicit a biological response in vivo, handle with caution.
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General Info

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. Involved in muscle maturation via its interaction with the myocyte enhancer factors such as MEF2A, MEF2C and MEF2D.
Tissue specificity	Ubiquitous.

Involvement in disease

Defects in HDAC4 are the cause of brachydactyly-mental retardation syndrome (BDMR) [MIM:600430]. A syndrome resembling the physical anomalies found in Albright hereditary osteodystrophy. Common features are mild facial dysmorphism, congenital heart defects, distinct brachydactyly type E, mental retardation, developmental delay, seizures, autism spectrum disorder, and stocky build. Soft tissue ossification is absent, and there are no abnormalities in parathyroid hormone or calcium metabolism.

Sequence similarities

Belongs to the histone deacetylase family. HD type 2 subfamily.

Domain

The nuclear export sequence mediates the shuttling between the nucleus and the cytoplasm.

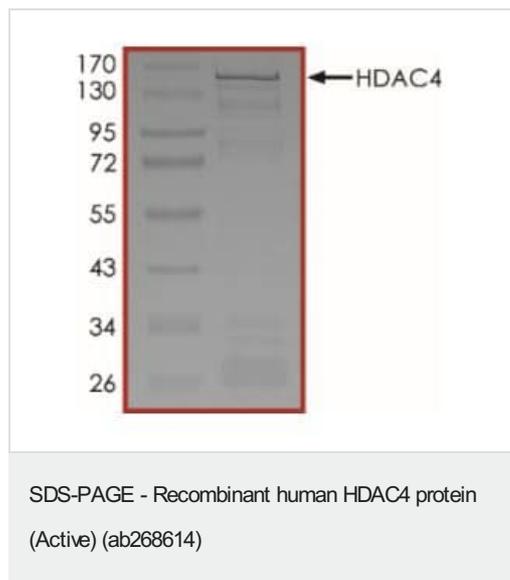
Post-translational modifications

Phosphorylated by CaMK4 at Ser-246, Ser-467 and Ser-632. Phosphorylation at other residues is required for the interaction with 14-3-3.

Sumoylation on Lys-559 is promoted by the E3 SUMO-protein ligase RANBP2, and prevented by phosphorylation by CaMK4.

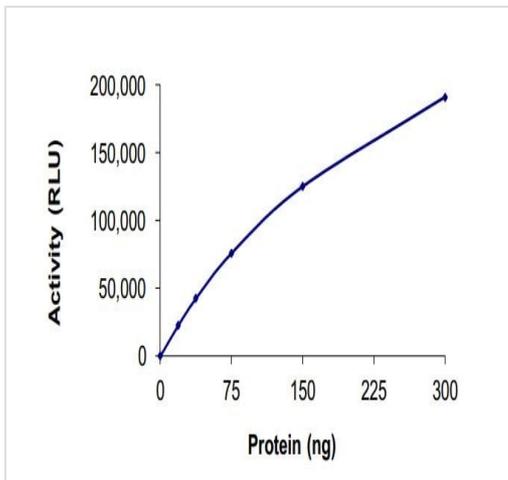
Cellular localization

Nucleus. Cytoplasm. Shuttles between the nucleus and the cytoplasm. Upon muscle cells differentiation, it accumulates in the nuclei of myotubes, suggesting a positive role of nuclear HDAC4 in muscle differentiation. The export to cytoplasm depends on the interaction with a 14-3-3 chaperone protein and is due to its phosphorylation at Ser-246, Ser-467 and Ser-632 by CaMK4. The nuclear localization probably depends on sumoylation.

Images

SDS-PAGE analysis of ab268614.

MW ~155 kDa.



The specific activity of HDAC4 was determined to be 80 RLU/min/ng in a HDAC-Glo assay using HDAC4 substrate.

Functional Studies - Recombinant human HDAC4 protein (Active) (ab268614)

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