abcam

Product datasheet

Recombinant human HDAC4 protein ab104029

1 References 2 Images

Description

Product name	Recombinant human HDAC4 protein
Biological activity	The Specific activity of ab104029 was determined to be 60 RLU/min/ng.
Purity	> 95 % SDS-PAGE. Purity was determined to be >95% by densitometry. Affinity purified.
Expression system	Baculovirus infected Sf9 cells
Accession	P56524
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Predicted molecular weight	77 kDa including tags
Amino acids	612 to 1084
Tags	GST tag N-Terminus

Specifications

Our **Abpromise guarantee** covers the use of **ab104029** 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

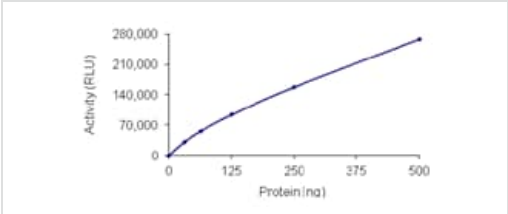
Preparation and Storage

Stability and Storage	Shipped on dry ice. Upon delivery aliquot and store at -80ºC. Avoid freeze / thaw cycles. pH: 7.50 Constituents: 0.307% Glutathione, 0.00174% PMSF, 0.00385% DTT, 0.79% Tris HCl, 0.00292% EDTA, 25% Glycerol (glycerin, glycerine), 0.87% Sodium chloride This product is an active protein and may elicit a biological response in vivo, handle with caution.

General Info

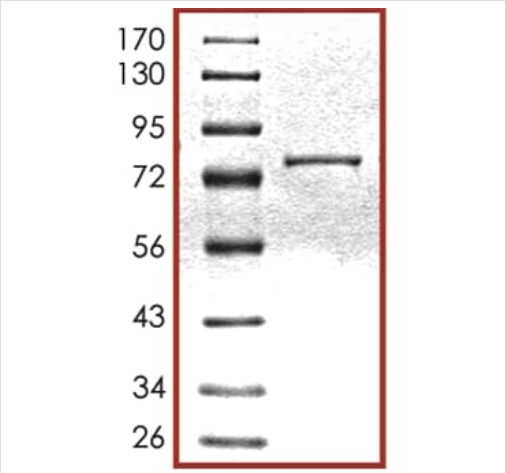
Function	Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events. Histone 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



Functional Studies - Recombinant human HDAC4 protein (ab104029)

Kinase Assay demonstrating specific activity of ab104029.



SDS-PAGE - Recombinant human HDAC4 protein (ab104029)

SDS-PAGE showing ab104029 at approximately 77kDa.

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

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