abcam

Product datasheet

Anti-RbAp48 antibody ab1765

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Overview

Product name	Anti-RbAp48 antibody
Description	Rabbit polyclonal to RbAp48
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, IHC-P, IP, WB
Species reactivity	**Reacts with:** Mouse, Dog, Human **Predicted to work with:** Chicken, Xenopus laevis
Immunogen	Synthetic peptide: CENIYNDEDPEGSVDPEGQGS , corresponding to amino acids 406-425 of Human and Mouse CAF 1 (p48). Run BLAST with Run BLAST with
General notes	Locus link: 350005 Alternative names: similar to chromatin assembly factor 1 p48 subunit A protein complex that is thought to mediate chromatin assembly in DNA replication and DNA repair. Assembles histone octamers onto replicating DNA in vitro. CAF-1 performs the first step of the nucleosome assembly process, bringing newly synthesized histones H3 and H4 to replicating DNA; Histones H2A/H2B can bind to this chromatin precursor subsequent to DNA replication to complete the histone octamer. P48 can bind to histone H4 in the absence of CAF-1 P150 and P160. Binds directly to helix 1 of histone H4, a region that is not accessible when H4 is in chromatin. SUBUNIT: CAF-1 is composed of three subunits, P48, P60 AND P150. Only minor amounts of P48 are complexed with P60 AND P150 in G1 phase. P48/RBBP4 is also part of the core histone deacetylase (HDAC) complex composed of HDAC1, HDAC2, RBBP4 and RBBP7. The core complex associates with MTA2, MBD3, MTA1L1, CHD3 and CHD4 to form the nucleosome remodelling and histone deacetylation (NuRD) complex, or with SIN3, SAP18 and SAP30 to form the SIN3 HDAC complex. Interacts with the viral protein-binding domain of the retinoblastoma protein (RB1). Interacts with SUV39H1 and HDAC7 (By similarity).

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	serum with 0.02% sodium azide

Purity	Whole antiserum
Primary antibody notes	A protein complex that is thought to mediate chromatin assembly in DNA replication and DNA repair. Assembles histone octamers onto replicating DNA in vitro. CAF-1 performs the first step of the nucleosome assembly process, bringing newly synthesized histones H3 and H4 to replicating DNA; Histones H2A/H2B can bind to this chromatin precursor subsequent to DNA replication to complete the histone octamer. P48 can bind to histone H4 in the absence of CAF-1 P150 and P160. Binds directly to helix 1 of histone H4, a region that is not accessible when H4 is in chromatin. SUBUNIT: CAF-1 is composed of three subunits, P48, P60 AND P150. Only minor amounts of P48 are complexed with P60 AND P150 in G1 phase. P48/RBBP4 is also part of the core histone deacetylase (HDAC) complex composed of HDAC1, HDAC2, RBBP4 and RBBP7. The core complex associates with MTA2, MBD3, MTA1L1, CHD3 and CHD4 to form the nucleosome remodelling and histone deacetylation (NuRD) complex, or with SIN3, SAP18 and SAP30 to form the SIN3 HDAC complex. Interacts with the viral protein-binding domain of the retinoblastoma protein (RB1). Interacts with SUV39H1 and HDAC7 (By similarity).
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab1765** in the following tested applications.

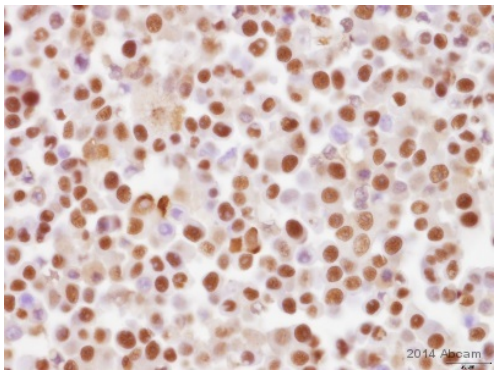
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF	★★★★★	1/50.
IHC-P	★★★★★	Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
IP	★★★★★	Use a concentration of 20 µg/ml.
WB	★★★★☆	1/1000. Detects a band of approximately 55 kDa (predicted molecular weight: 47.6 kDa).

Target

Function	Core histone-binding subunit that may target chromatin assembly factors, chromatin remodeling factors and histone deacetylases to their histone substrates in a manner that is regulated by nucleosomal DNA. Component of several complexes which regulate chromatin metabolism. These include the chromatin assembly factor 1 (CAF-1) complex, which is required for chromatin assembly following DNA replication and DNA repair; the core histone deacetylase (HDAC) complex, which promotes histone deacetylation and consequent transcriptional repression; the nucleosome remodeling and histone deacetylase complex (the NuRD complex), which promotes transcriptional repression by histone deacetylation and nucleosome remodeling; the PRC2/EED-EZH2 complex, which promotes repression of homeotic genes during development; and the NURF (nucleosome remodeling factor) complex.
Sequence similarities	Belongs to the WD repeat RBAP46/RBAP48/MSI1 family. Contains 6 WD repeats.
Cellular localization	Nucleus.

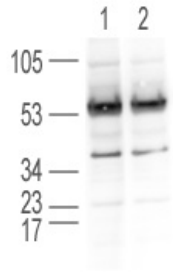
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RbAp48 antibody (ab1765)

This image is courtesy of an anonymous Abreview

ab1765 staining RbAp48 in MDCK cell pellets by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Pellets were fixed with paraformaldehyde and blocked with 1% BSA for 3 hours at 22°C; antigen retrieval was by heat mediation in a citrate buffer, permeabilization was with Tween-20. Samples were incubated with primary antibody (1/100 in TBST) for 16 hours. A HRP-conjugated Goat anti-rabbit IgG polyclonal was used as the secondary antibody.

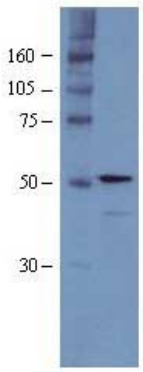


Western blot - p48 CAF1 antibody (ab1765)

Rabbit polyclonal to CAF 1 p48 (ab1765)
Each lane contains 20 ug of HeLa whole cell lysate.

Lane 1: ab1765 1/500
Lane 2: ab1765 1/1000

Secondary antibody - Goat anti-Rabbit (HRP) (ab6721) at 1/2000.



Western blot - p48 CAF1 antibody (ab1765)

Anti-RbAp48 antibody (ab1765) at 1/1000 dilution

Secondary

Anti-rabbit IgG HRP

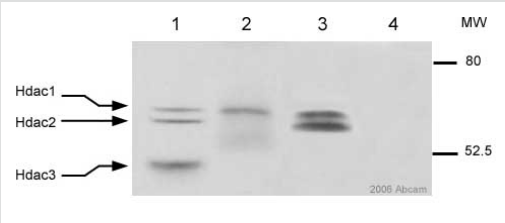
Developed using the ECL technique.

Predicted band size: 47.6 kDa

Observed band size: 40,55 kDa

Exposure time: 1 minute

ab1765 detecting p48 CAF1 from human LCL whole cell lysates by Western Blot.



Immunoprecipitation - p48 CAF1 antibody (ab1765)

ab1765 used in Immunoprecipitation of HeLa whole cell lysate.

Whole cell extract (containing 100µg of soluble protein) was incubated with 20µg of antibody overnight. Protein A-Agarose was added to the immunocomplexes and incubated at room temperature for three hours. Immunocomplexes were eluted and then resolved using 7.5% SDS-PAGE under reducing conditions. For the detection of HDAC1, 2 and 3 a non-Abcam mouse monoclonal antibody was used at a dilution of 1/800. Results support the understanding that HDAC1 and 2 are in the same complex together with p48. Note that HDAC1 does not coprecipitate HDAC2, probably displaced by the antibody during the experiment.

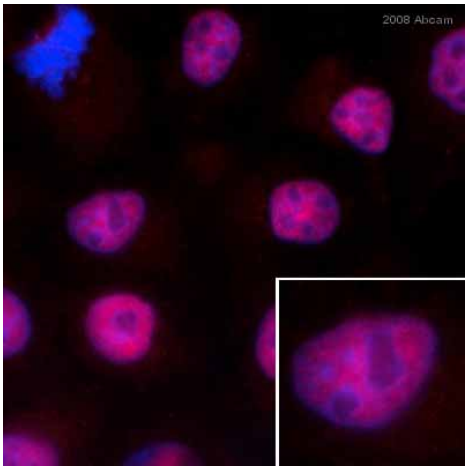
Lane 1: Input

Lane 2: HDAC1 (ab1769)

Lane 3: p48 (ab1765)

Lane 4: No antibody control

This image is courtesy of an Abreview by **Hugh Spotswood** submitted on **9 February 2006.**



Immunocytochemistry/ Immunofluorescence - p48 CAF1 antibody (ab1765)

This image is courtesy of an Abreview submitted by Dr Alexander Rapp

ab1765 staining cultured human HeLa cells by ICC/IF. Cells were PFA fixed and permeabilized in 0.5% Triton X100 prior to blocking in 5% BSA for 1 hour at 20°C. The primary antibody was diluted 1/50 and incubated with the sample for 1 hour at 20°C. A Cy3® conjugated donkey anti-rabbit antibody was used as the secondary.

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