abcam

Product datasheet

Anti-Dcp1a antibody ab47811

KO VALIDATED

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Overview

Product name	Anti-Dcp1a antibody
Description	Rabbit polyclonal to Dcp1a
Host species	Rabbit
Specificity	Replenishment batches of our polyclonal antibody, ab47811 are tested in WB. Previous batches were additionally validated in IHC-P and IP. These applications are still expected to work and are covered by our Abpromise guarantee. You may also be interested in our alternative recombinant antibody, **ab183709**.
Tested applications	**Suitable for:** WB, IHC-P, IP
Species reactivity	**Reacts with:** Human **Predicted to work with:** Chimpanzee, Rhesus monkey
Immunogen	Synthetic peptide conjugated to KLH derived from within residues 300 - 400 of Human Dcp1a.Read Abcam's proprietary immunogen policy(Peptide available as **ab71605**.)
Positive control	WB: HEK-293, HeLa, Jurkat and HepG2 whole cell lysates; IHC: Human placenta tissue; ICC/IF: HeLa cells.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

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	pH: 7.40 Preservative: 0.02% Sodium azide

	Constituent: PBS Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab47811 in the following tested applications.

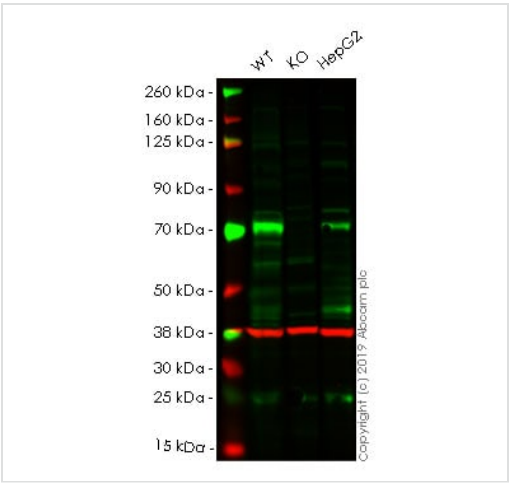
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆ (1)	Use a concentration of 1 µg/ml. Detects a band of approximately 75 kDa (predicted molecular weight: 63 kDa). Abcam recommends using milk as the blocking agent.
IHC-P		Use a concentration of 5 µg/ml.
IP	★★★★☆ (1)	Use at an assay dependent concentration.

Target

Function	Necessary for the degradation of mRNAs, both in normal mRNA turnover and in nonsense-mediated mRNA decay. Removes the 7-methyl guanine cap structure from mRNA molecules, yielding a 5'-phosphorylated mRNA fragment and 7m-GDP. Contributes to the transactivation of target genes after stimulation by TGFB1.
Tissue specificity	Detected in heart, brain, placenta, lung, skeletal muscle, liver, kidney and pancreas.
Sequence similarities	Belongs to the DCP1 family.
Cellular localization	Cytoplasm > P-body. Nucleus. Co-localizes with NANOS3 in the processing bodies (By similarity). Predominantly cytoplasmic, in processing bodies (PB). Nuclear, after TGFB1 treatment. Translocation to the nucleus depends on interaction with SMAD4.

Images



Western blot - Anti-Dcp1a antibody (ab47811)

All lanes : Anti-Dcp1a antibody (ab47811) at 1 µg/ml

Lane 1 : Wild-type HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate
Lane 2 : DCP1A knockout HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate
Lane 3 : HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate

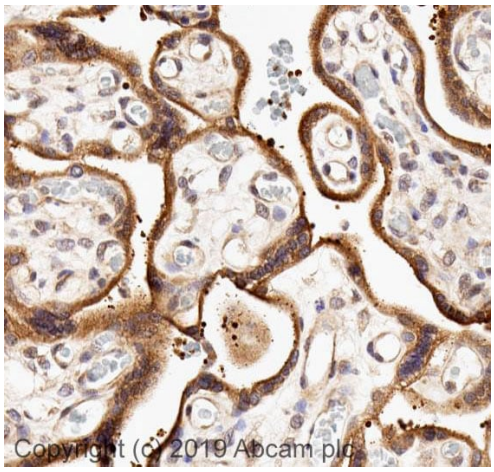
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 63 kDa
Observed band size: 75 kDa

Lanes 1 - 3: Merged signal (red and green). Green - ab47811 observed at 75 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

ab47811 was shown to recognize DCP1A in wild-type HEK-293 cells as signal was lost at the expected MW in DCP1A knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and DCP1A knockout samples were subjected to SDS-PAGE. Ab47811 and **ab8245** (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1 ug/ml and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed **ab216773** and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed **ab216776** secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

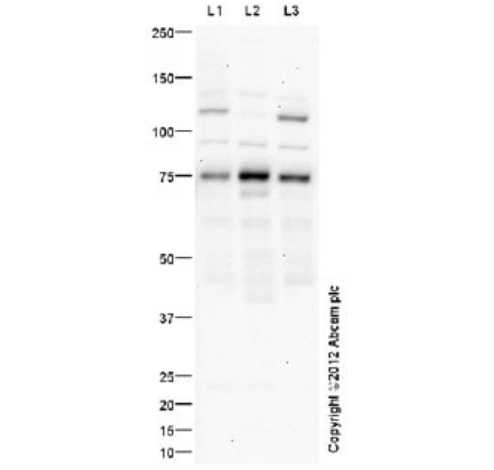


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dcp1a antibody (ab47811)

IHC image of Dcp1a antibody staining in a section of formalin-fixed paraffin-embedded normal human placenta* performed on a Leica BOND™ system using the standard protocol. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab47811, 5ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

**Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre*



Western blot - Anti-Dcp1a antibody (ab47811)

All lanes : Anti-Dcp1a antibody (ab47811) at 1 mg/ml

Lane 1 : HeLa (Human epithelial carcinoma cell line) WCL at 10 µg
Lane 2 : Jurkat (Human T cell lymphoblast-like cell line) WCL
Lane 3 : HepG2 (Human hepatocellular liver carcinoma cell line) WCL

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/10000 dilution

Developed using the ECL technique.

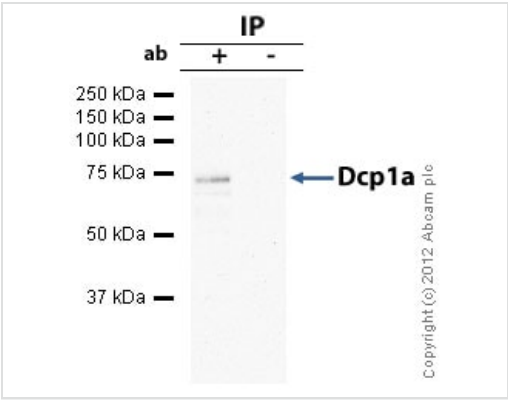
Performed under reducing conditions.

Predicted band size: 63 kDa
Observed band size: 75 kDa
Additional bands at: 120 kDa (possible non-specific binding), 90 kDa (possible non-specific binding)

Exposure time: 12 minutes

This blot was produced using a 10% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 3% milk before being incubated with ab47811 overnight at 4°C. Antibody binding was detected using an anti-rabbit antibody conjugated to HRP, and visualised using ECL development solution.

Abcam recommends using milk as the blocking agent. Abcam welcomes customer feedback and would appreciate any comments regarding this product and the data presented above.



Immunoprecipitation - Anti-Dcp1a antibody (ab47811)

Dcp1a was immunoprecipitated using 0.5mg Jurkat whole cell extract, 5µg of Rabbit polyclonal to Dcp1a and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, Jurkat whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.
Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70^{o}C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab47811.
Secondary: Mouse monoclonal [SB62a] Secondary Antibody to Rabbit IgG light chain (HRP) (**ab99697**).
Band: 75kDa: Dcp1a.

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