# Overview

**Product name**: Anti-Dcp1a antibody [EPR13822]  
**Description**: Rabbit monoclonal [EPR13822] to Dcp1a  
**Host species**: Rabbit  
**Tested applications**: Suitable for: Flow Cyt, IHC-P, WB, ICC/IF  
**Species reactivity**: Reacts with: Mouse, Rat, Human  
**Immunogen**: Synthetic peptide (the amino acid sequence is considered to be commercially sensitive) within Human Dcp1a aa 550 to the C-terminus. The exact sequence is proprietary. Database link: Q9NPI6  
**Positive control**: WB: HEK-293, HeLa, and HepG2 whole cell lysate; IHC-P: Human kidney tissue; ICC/IF: HepG2 and HeLa cells; FC: HeLa cells.  
**General notes**: Our RabMab® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to [RabMab® patents](#). This product is a recombinant rabbit monoclonal antibody.

## Properties

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<tr>
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<tbody>
<tr>
<td>Storage buffer</td>
<td>Preservative: 0.01% Sodium azide</td>
<td>Constituents: 59% PBS, 40% Glycerol, 0.05% BSA</td>
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<tr>
<td>Purity</td>
<td>Protein A purified</td>
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<tr>
<td>Clonality</td>
<td>Monoclonal</td>
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<tr>
<td>Clone number</td>
<td>EPR13822</td>
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<tr>
<td>Isotype</td>
<td>IgG</td>
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## Applications
Our **Abpromise guarantee** covers the use of **ab183709** in the following tested applications.

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Flow Cyt</td>
<td>1/150.</td>
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<tr>
<td></td>
<td>ab172730</td>
<td>- Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.</td>
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<td>IHC-P</td>
<td>1/250.</td>
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<td></td>
<td>Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.</td>
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<tr>
<td>WB</td>
<td>1/1000 - 1/10000.</td>
<td>Detects a band of approximately 75 kDa (predicted molecular weight: 63 kDa).</td>
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<td>ICC/IF</td>
<td>1/250.</td>
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**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**

All lanes: Anti-Dcp1a antibody [EPR13822] (ab183709) at 1/1000 dilution

Lane 1: Wild-type HEK-293 whole cell lysate
Lane 2: DCP1A knockout HEK-293 whole cell lysate
Lane 3: HepG2 whole cell lysate

Lysates/proteins at 20 µg per lane.

**Predicted band size:** 63 kDa

**Observed band size:** 75 kDa

**why is the actual band size different from the predicted?**
**Lanes 1 - 3:** Merged signal (red and green). Green - ab183709 observed at 75 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab183709 was shown to specifically react with DCP1A in wild-type HEK-293 cells as signal was lost in DCP1A knockout cells. Wild-type and DCP1A knockout samples were subjected to SDS-PAGE. Ab183709 and ab8245 (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution 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.

**Western blot - Anti-Dcp1a antibody [EPR13822] (ab183709)**

Anti-Dcp1a antibody [EPR13822] (ab183709) at 1/10000 dilution + 293T cell lysate at 20 µg

**Secondary**

Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

**Predicted band size:** 63 kDa  
**Observed band size:** 75 kDa  
*why is the actual band size different from the predicted?*

**Immunofluorescent analysis of 4% paraformaldehyde-fixed HepG2 cells labeling Dcp1a with ab183709 at 1/250 dilution, followed by Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody at 1/200 dilution (green). Counter stained with Dapi (blue).**

**Immunocytochemistry/ Immunofluorescence - Anti-Dcp1a antibody [EPR13822] (ab183709)**
Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling Dcp1a with ab183709 at 1/250 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin.

Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.

ab183709 staining Dcp1a in HeLa (human cervix adenocarcinoma) cells by ICC/IF (Immunocytochemistry/Immunofluorescence). Cells were fixed with 4% Paraformaldehyde and permeabilized with 0.1% Triton X-100. Samples were incubated with primary antibody at a dilution of 1/500. A goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a dilution of 1/1000. DAPI was used as a nuclear counterstain.

Control: PBS only
All lanes: Anti-Dcp1a antibody [EPR13822] (ab183709) at 1/2000 dilution

Lane 1: HeLa cell lysate
Lane 2: HepG2 cell lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 63 kDa
Observed band size: 75 kDa why is the actual band size different from the predicted?

Flow cytometric analysis of 2% paraformaldehyde-fixed HeLa cells labeling Dcp1a with ab183709 at 1/150 dilution (red) compared to a Rabbit monoclonal IgG isotype control (green), followed by Goat anti rabbit IgG (FITC) secondary antibody at 1/150 dilution.

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

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