abcam

ab215035

Anti-PEG10/EDR antibody [EPR20051]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR20051
Purification technique	Affinity purification Protein A
Concentration	0.515 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information PEG10

Function	Retrotransposon-derived protein that binds its own mRNA and self-assembles into virion-like capsids (PubMed:34413232). Forms virion-like extracellular vesicles that encapsulate their own mRNA and are released from cells, enabling intercellular

transfer of PEG10 mRNA (PubMed:34413232). Binds its own mRNA in the 5'-UTR region, in the region near the boundary between the nucleocapsid (NC) and protease (PRO) coding sequences and in the beginning of the 3'-UTR region (PubMed:34413232). Involved in placenta formation: required for trophoblast stem cells differentiation (By similarity). Involved at the immediate early stage of adipocyte differentiation (By similarity). Overexpressed in many cancers and enhances tumor progression: promotes cell proliferation by driving cell cycle progression from G0/G1 (PubMed:12810624, PubMed:16423995, PubMed:26235627, PubMed:28193232). Enhances cancer progression by inhibiting the TGF-beta signaling, possibly via interaction with the TGF-beta receptor ACVRL1 (PubMed:15611116, PubMed:26235627, PubMed:30094509). May bind to the 5'-GCCTGTCTTT-3' DNA sequence of the MB1 domain in the myelin basic protein (MBP) promoter; additional evidences are however required to confirm this result (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PEG10 also known as EDR2 is a paternally expressed imprinted gene that encodes the PEG10 protein. The PEG10 protein has a molecular mass of approximately 150 kDa. It shows expression most notably in the placenta during development but also in other tissues like the liver and brain. The protein contains two open reading frames that produce different products via a frameshift mechanism similar to retroviral proteins.
Biological function summary	The PEG10 protein plays multiple roles especially in cell proliferation apoptosis inhibition and promoting cell survival. It can be part of larger protein complexes that modulate cellular responses to stress and developmental cues. The protein's multifaceted activities are important during embryogenesis where it supports trophoblast development and placental formation.
Pathways	PEG10 interacts with signaling cascades such as the TGF-beta signaling pathway and is involved in cell cycle regulation. PEG10 works alongside proteins like paternally expressed genes that connect with TGF-beta pathways influencing cellular differentiation and growth. Its integration in these pathways highlights its role in managing cellular environments and responses to cellular stress signals.
Associated diseases and disorders	PEG10 expression over-activation has associations with cancer especially hepatocellular carcinoma and pancreatic cancer. In these contexts PEG10 interacts with proteins like H3L3 contributing to oncogenic pathways that drive tumor cell proliferation and survival. Elevated levels of PEG10 can serve as potential biomarkers for certain cancers suggesting their role in disease progression and possible therapeutic targeting.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

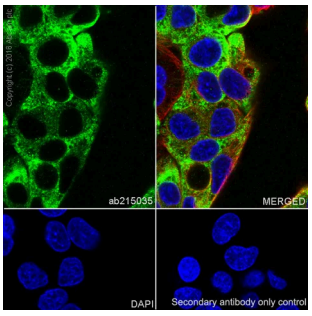
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

10 product images

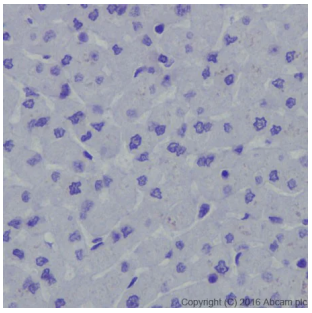


Immunocytochemistry/ Immunofluorescence - Anti-PEG10/EDR antibody [EPR20051] (ab215035)

PEG10/EDR Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PEG10/EDR antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HepG2 (Human liver hepatocellular carcinoma cell line) cells labeling PEG10/EDR with ab215035 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on HepG2 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab195889 (Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594)) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.



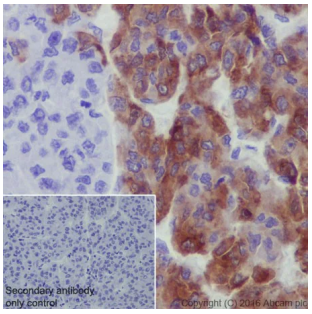
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PEG10/EDR antibody [EPR20051] (ab215035)

PEG10/EDR Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PEG10/EDR antibody

Immunohistochemical analysis of paraffin-embedded human liver tissue labeling PEG10/EDR with ab215035 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution. Negative staining on normal cells in human liver.

Counter stained with Hematoxylin.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



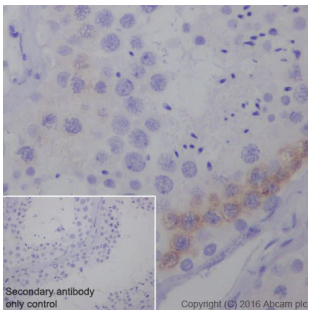
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PEG10/EDR antibody [EPR20051] (ab215035)

PEG10/EDR Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PEG10/EDR antibody

Immunohistochemical analysis of paraffin-embedded human liver cancer tissue labeling PEG10/EDR with ab215035 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution. Cytoplasmic staining on part of the cells in human liver cancer is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

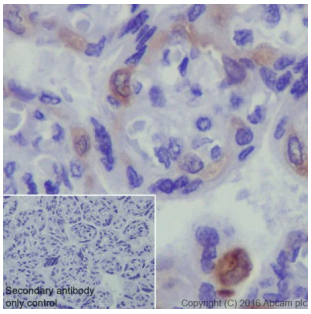


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PEG10/EDR antibody [EPR20051] (ab215035)

PEG10/EDR Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PEG10/EDR antibody

Immunohistochemical analysis of paraffin-embedded human testis tissue labeling PEG10/EDR with ab215035 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution. Cytoplasmic staining on the germ cells in human testis is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

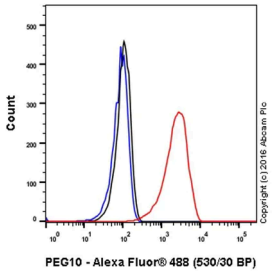


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PEG10/EDR antibody [EPR20051] (ab215035)

PEG10/EDR Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PEG10/EDR antibody

Immunohistochemical analysis of paraffin-embedded human placenta tissue labeling PEG10/EDR with ab215035 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution. Cytoplasmic staining on some cells in human placenta is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

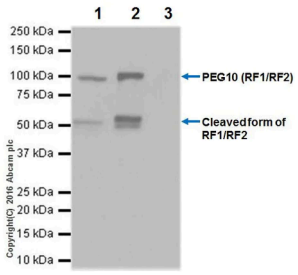
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-PEG10/EDR antibody [EPR20051] (ab215035)

PEG10/EDR Flow Cytometry (Intracellular) staining using rabbit Anti-PEG10/EDR antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed HepG2 (Human liver hepatocellular carcinoma cell line) cells labeling PEG10/EDR with ab215035 at 1/500 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-PEG10/EDR antibody [EPR20051] (ab215035)

PEG10/EDR was immunoprecipitated from 0.35 mg of HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate with ab215035 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab215035 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10,000 dilution
Lane 1: HepG2 whole cell lysate, 10 µg (Input).

Lane 2: ab215035 IP in HepG2 whole cell lysate.

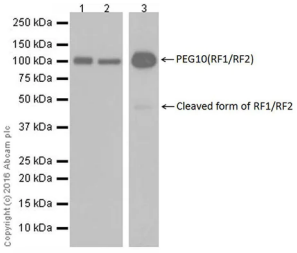
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab215035 in HepG2 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 seconds.

All lanes:
Immunoprecipitation - Anti-PEG10/EDR antibody [EPR20051] (ab215035)

Predicted band size: 80 kDa



Western blot - Anti-PEG10/EDR antibody [EPR20051] (ab215035)

Blocking/Dilution buffer: 5% NFDM/TBST.
The expression of PEG10/EDR in HepG2 cells is consistent with what has been described in the literature PMID: 17942406.

Lanes 1 - 2:
Western blot - Anti-PEG10/EDR antibody [EPR20051] (ab215035) at 1/2000 dilution

Lane 3:
Western blot - Anti-PEG10/EDR antibody [EPR20051] (ab215035) at 1/10000 dilution

Lane 1:
HEK 293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 10 µg

Lane 2:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 10 µg

Lane 3:
HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate at 10 µg

Secondary

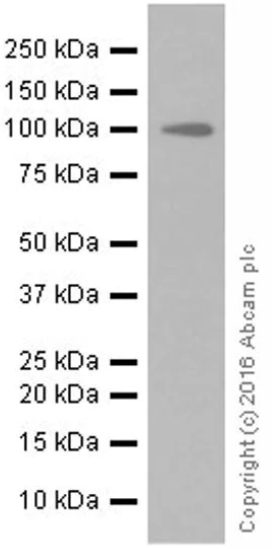
All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 80 kDa

Observed band size: 100 kDa

Exposure time: 3min

Western blot - Anti-PEG10/EDR antibody [EPR20051] (ab215035)



PEG10/EDR Western blot staining of Human testis lysate using rabbit Anti-PEG10/EDR antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-PEG10/EDR antibody [EPR20051] (ab215035) at 1/1000 dilution

All lanes:
Human testis lysate at 10 µg

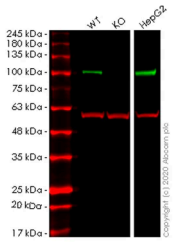
Secondary

All lanes:
Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG at 1/100000 dilution

Predicted band size: 80 kDa

Observed band size: 100 kDa

Exposure time: 1min



Western blot - Anti-PEG10/EDR antibody [EPR20051] (ab215035)

PEG10/EDR Western blot staining using rabbit Anti-PEG10/EDR antibody

Lanes 1-4: Merged signal (red and green). Green - ab215035 observed at 100 kDa. Red - loading control ab7291 observed at 50 kDa.
ab215035 Anti-PEG10/EDR antibody [EPR20051] was shown to specifically react with PEG10/EDR in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265925 (knockout cell lysate ab258103) was used. Wild-type and PEG10/EDR knockout samples were subjected to SDS-PAGE. ab215035 and Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-PEG10/EDR antibody [EPR20051] (ab215035) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human PEG10 (EDR) knockout HeLa cell lysate (ab258103) at 20 µg

Lane 3:
HepG2 cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 80 kDa

Observed band size: 100 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.