abcam

ab313622

Anti-PUS10 antibody [EPR26272-66]

Recombinant | RabMAb | 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	EPR26272-66
Purification technique	Affinity purification Protein A
Concentration	0.504 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/2000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PUS10

Function

Protein with different functions depending on its subcellular location: involved in miRNA processing in the nucleus and acts as a tRNA pseudouridylate synthase in the cytoplasm (PubMed:31819270, PubMed:33023933). In the cytoplasm, acts as a pseudouridylate synthase by catalyzing synthesis of pseudouridine(54) and pseudouridine(55) from uracil-54 and uracil-55, respectively, in the psi GC loop of a subset of tRNAs (PubMed:30530625, PubMed:31819270, PubMed:33023933). tRNA pseudouridylate synthase activity is enhanced by the presence of 1-methyladenosine at position 53-61 of tRNAs (PubMed:30530625). Does not show tRNA pseudouridylate synthase activity in the nucleus (PubMed:33023933). In the nucleus, promotes primary microRNAs (pri-miRNAs) processing independently of its RNA pseudouridylate synthase activity (PubMed:31819270). Binds pri-miRNAs (PubMed:31819270). Modulator of TRAIL/TNFSF10-induced cell death via activation of procaspase-8 and BID cleavage (PubMed:14527409, PubMed:19712588). Required for the progression of the apoptotic signal through intrinsic mitochondrial cell death (PubMed:19712588).

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	The protein PUS10 also known as pseudouridylate synthase 10 catalyzes the isomerization of uridine to pseudouridine in RNA molecules. This process introduces pseudouridine modifications critical for RNA stability and processing. PUS10 has a molecular mass of approximately 57 kDa and it is expressed in several tissues including the heart and skeletal muscle. This protein is found in both the nucleus and cytoplasm of cells suggesting its role in modifying different types of RNA.
Biological function summary	PUS10 plays significant functions that affect RNA biogenesis and stability. Its involvement in pseudouridylation impacts the structure and function of tRNA rRNA and other small RNA species. This protein is not part of a larger protein complex but works independently. Its activity influences the integrity of RNA molecules which is important for accurate protein synthesis and cellular function.
Pathways	PUS10 significantly contributes to RNA modification and processing pathways. It is a part of the wider RNA maturation process where it cooperates with other RNA-

	modifying enzymes like dyskerin (DKC1). DKC1 also participates in pseudouridylation highlighting the interconnected roles in ensuring RNA's proper folding and functionality. PUS10's involvement in the RNA modification pathway underlines its importance in maintaining RNA function integrity.
Associated diseases and disorders	PUS10 has been linked to several health conditions. It has notable associations with cancer and autoimmune diseases. In cancer alterations in PUS10 expression levels can disrupt normal cell function potentially leading to tumorigenesis. It also interacts with the p53 protein which plays a role in tumor suppression. In autoimmune diseases the misregulation of RNA modifications including pseudouridylation by PUS10 might contribute to autoimmune responses due to altered RNA structures. Understanding PUS10 in these contexts provides insight into how RNA modifications could influence disease progression and treatment.

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

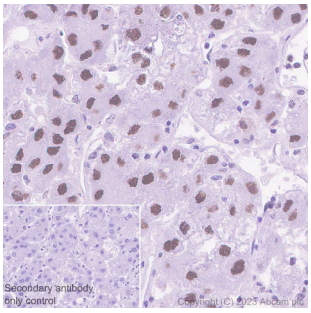
We do not recommend this combination. It is not covered by our product promise.

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.

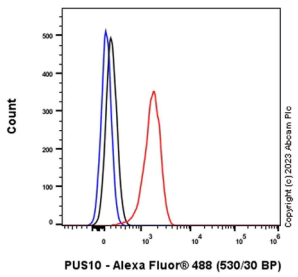
Full details and terms and conditions can be found here:
Terms & Conditions.

8 product images



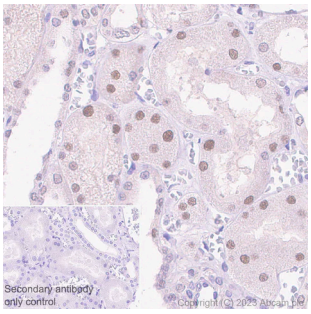
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PUS10 antibody [EPR26272-66] (ab313622)

Immunohistochemical analysis of paraffin-embedded Human hepatocellular tissue labeling PUS10 with ab313622 at 1/2000 (0.252 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human hepatocellular carcinoma. The section was incubated with ab313622 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



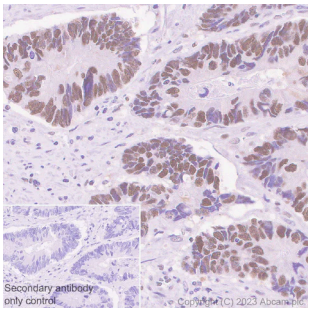
Flow Cytometry (Intracellular) - Anti-PUS10 antibody [EPR26272-66] (ab313622)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized PC-3 (human prostate adenocarcinoma epithelial cell) cells labelling PUS10 with ab313622 at 1/500 dilution (0.1 ug)/Red (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



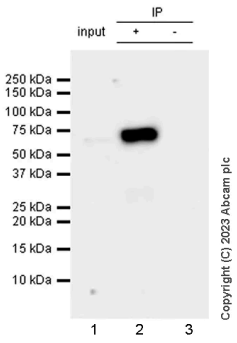
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PUS10 antibody [EPR26272-66] (ab313622)

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling PUS10 with ab313622 at 1/2000 (0.252 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human kidney. The section was incubated with ab313622 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PUS10 antibody [EPR26272-66] (ab313622)

Immunohistochemical analysis of paraffin-embedded Human colon carcinom tissue labeling PUS10 with ab313622 at 1/2000 (0.252 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human colon carcinoma. The section was incubated with ab313622 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunoprecipitation - Anti-PUS10 antibody [EPR26272-66] (ab313622)

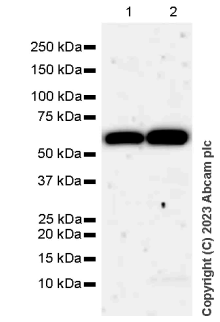
PUS10 was immunoprecipitated from 0.35 mg PC-3 (human prostate adenocarcinoma epithelial cell) whole cell lysate with ab313622 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab313622 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: PC-3 (human prostate adenocarcinoma epithelial cell) whole cell lysate Lane 2: ab313622 IP in PC-3 (human prostate adenocarcinoma epithelial cell) whole cell lysate Lane 3:Rabbit monoclonal IgG (ab172730) instead of ab313622 in PC-3 whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 24 seconds
All lanes:
Immunoprecipitation - Anti-PUS10 antibody [EPR26272-66] (ab313622) at 1/30 dilution

All lanes:
PC-3 (human prostate adenocarcinoma epithelial cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Exposure time: 24s



Western blot - Anti-PUS10 antibody [EPR26272-66] (ab313622)

Blocking and diluting buffer and concentration: 5% NFDM/TBST Exposure time: 180 seconds
All lanes:
Western blot - Anti-PUS10 antibody [EPR26272-66] (ab313622) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

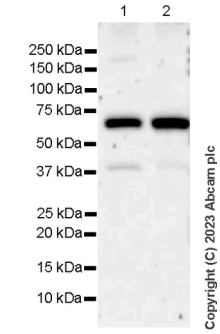
Lane 2:
HepG2 (human hepatocellar carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

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

Observed band size: 60 kDa

Exposure time: 180s



Western blot - Anti-PUS10 antibody [EPR26272-66] (ab313622)

Blocking and diluting buffer and concentration: 5% NFDM/TBST The identity of the lower MW band at approximately 37 kDa is unknown. Exposure time: 180 seconds
All lanes:
Western blot - Anti-PUS10 antibody [EPR26272-66] (ab313622) at 1/1000 dilution

Lane 1:
Human testis tissue lysate at 20 µg

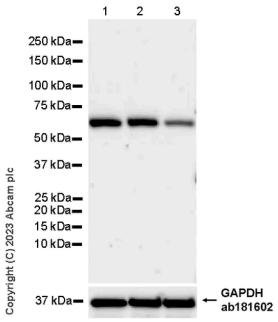
Lane 2:
Human kidney tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 60 kDa

Exposure time: 180s



Western blot - Anti-PUS10 antibody [EPR26272-66] (ab313622)

Blocking and diluting buffer and concentration: 5% NFDM/TBST In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution. Exposure time: 103 seconds
All lanes:
Western blot - Anti-PUS10 antibody [EPR26272-66] (ab313622) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
PC-3 (human prostate adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 3:
PC-3 transfected with siRNA specifically targeti PUS10 whole cell lysate at 20 µg

Secondary

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

Observed band size: 60 kDa

Exposure time: 103s

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