abcam

ab166913

Anti-Gemin 3 antibody [EPR11283]

Recombinant | RabMAb

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	EPR11283
Purification technique	Affinity purification Protein A
Concentration	0.922 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	**For unpurified use at 1/100 - 1/250**

Predicted

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information DDX20

Function The SMN complex catalyzes the assembly of small nuclear ribonucleoproteins (snRNPs), the building blocks of the spliceosome, and thereby plays an important role in the splicing of cellular pre-mRNAs. Most spliceosomal snRNPs contain a common set of Sm proteins SNRPB, SNRPD1, SNRPD2, SNRPD3, SNRPE, SNRPF and SNRPG that assemble in a heptameric protein ring on the Sm site of the small nuclear RNA to form the core snRNP (Sm core). In the cytosol, the Sm proteins SNRPD1, SNRPD2, SNRPE, SNRPF and SNRPG are trapped in an inactive 6S pICln-Sm complex by the chaperone CLNS1A that controls the assembly of the core snRNP. To assemble core snRNPs, the SMN complex accepts the trapped 5Sm proteins from CLNS1A forming an intermediate. Binding of snRNA inside 5Sm triggers eviction of the SMN complex, thereby allowing binding of SNRPD3 and SNRPB to complete assembly of the core snRNP. May also play a role in the metabolism of small nucleolar ribonucleoprotein (snoRNPs).

Storage

Shipped at conditions Conditional Ambient

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.

Species reactivity
Rat: We have preliminary internal testing data to indicate this antibody may not react with this species.
Please contact us for more information.

Supplementary info

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

Activity summary	Gemin 3 also known as gemin3 is a protein that acts as an RNA helicase and plays an essential mechanical role in RNA processing and metabolism. It is part of the family of DEAD-box proteins and is highly conserved across species. The molecular mass of Gemin 3 is about 95 kDa. Expression of Gemin 3 occurs in various tissues with significant presence in the brain spinal cord and other neuronal tissues indicating its important role in neurological function.
Biological function summary	Gemin 3 forms part of the large multiprotein complex known as the survival of motor neuron (SMN) complex. This complex participates in the assembly of small nuclear ribonucleoproteins (snRNPs) which are fundamental components of the spliceosome. Gemin 3 contributes to spliceosome biogenesis and the management of RNA processing activities which are essential for normal cellular functions and gene expression regulation.
Pathways	Gemin 3 is critically involved in the SMN-mediated snRNP assembly pathway and also plays a role in the regulation of mRNA splicing. In these pathways Gemin 3

	closely interacts with other proteins in the SMN complex such as Gemin 2 and Gemin 4 which are important for the stability and function of the entire snRNP assembly process. These interactions are necessary for efficient pre-mRNA splicing ensuring proper genetic information flow and expression.
Associated diseases and disorders	Gemin 3 is directly linked to spinal muscular atrophy (SMA) a neurodegenerative disorder caused by mutations in the SMN1 gene affecting the SMN complex. When the SMN complex malfunctions due to inadequate cooperation between SMN and Gemin 3 it leads to defective snRNP assembly causing loss of motor neurons and muscle wasting characteristic of SMA. Additionally altered Gemin 3 function can be associated with certain other neurodegenerative conditions where RNA processing is impaired highlighting the protein's importance in maintaining neurological health.

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

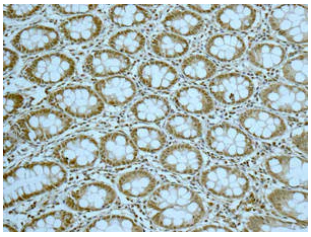
We do not recommend this combination. It is not covered by our product promise.

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.

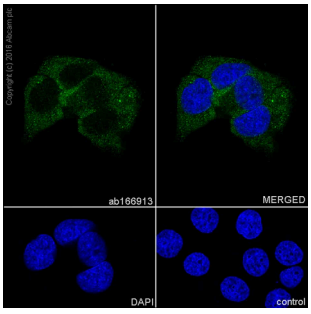
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Gemin 3 antibody [EPR11283] (ab166913)

Gemin 3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Gemin 3 antibody

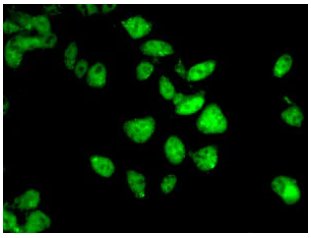
Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Gemin 3 with ab166913 at 1/100 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Gemin 3 antibody [EPR11283] (ab166913)

Gemin 3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Gemin 3 antibody

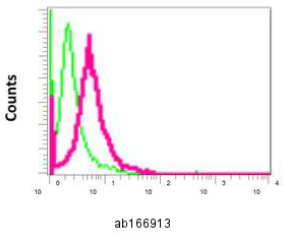
Immunocytochemistry/Immunofluorescence analysis of MCF-7 (human breast carcinoma) cells labelling Gemin 3 with purified ab166913 at 1/500. Cells were fixed with 4% Paraformaldehyde. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (ab150077) at 1/1000 dilution was used as the secondary antibody. Nuclei couterstained with DAPI (blue).
Secondary Only Control: PBS was used instead of the primary antibody as the negative control.



Immunocytochemistry/ Immunofluorescence - Anti-Gemin 3 antibody [EPR11283] (ab166913)

Gemin 3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Gemin 3 antibody

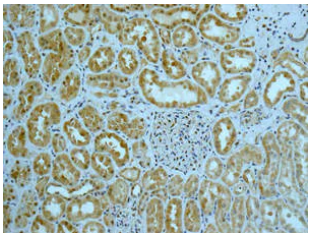
Immunofluorescent analysis of 293T cells labeling Gemin 3 with ab166913 at 1/100 dilution.



Flow Cytometry (Intracellular) - Anti-Gemin 3 antibody [EPR11283] (ab166913)

Gemin 3 Flow Cytometry (Intracellular) staining using rabbit Anti-Gemin 3 antibody

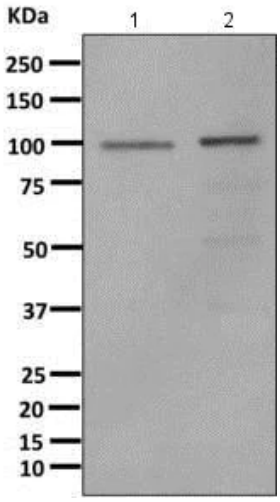
Intracellular flow cytometric analysis of permeabilized 293T cells labeling Gemin 3 with ab166913 at 1/100 (red) or a rabbit IgG control (negative) (green).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Gemin 3 antibody [EPR11283] (ab166913)

Gemin 3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Gemin 3 antibody

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling Gemin 3 with ab166913 at 1/100 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-Gemin 3 antibody [EPR11283] (ab166913)

Gemin 3 Western blot staining using rabbit Anti-Gemin 3 antibody

All lanes:
Western blot - Anti-Gemin 3 antibody [EPR11283] (ab166913) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
293T cell lysate at 10 µg

Predicted band size: 92 kDa

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