abcam

ab238921

Anti-eIF3B antibody [EPR5804] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR5804
Purification technique	Affinity purification Protein A
Dissociation constant	5.6 x 10^{-11} M
Concentration	1.038 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information EIF3B

Function	RNA-binding component of the eukaryotic translation initiation factor 3 (eIF-3) complex, which is required for several steps in the initiation of protein synthesis (PubMed:17581632, PubMed:25849773, PubMed:27462815, PubMed:9388245). The eIF-3 complex associates with the 40S ribosome and facilitates the recruitment of eIF-1, eIF-1A, eIF-2:GTP:methionyl-tRNAi and eIF-5 to form the 43S pre-initiation complex (43S PIC). The eIF-3 complex stimulates mRNA recruitment to the 43S PIC and scanning of the mRNA for AUG recognition. The eIF-3 complex is also required for disassembly and recycling of post-termination ribosomal complexes and subsequently prevents premature joining of the 40S and 60S ribosomal subunits prior to initiation (PubMed:17581632, PubMed:9388245). The eIF-3 complex specifically targets and initiates translation of a subset of mRNAs involved in cell proliferation, including cell cycling, differentiation and apoptosis, and uses different modes of RNA stem-loop binding to exert either translational activation or repression (PubMed:25849773). (Microbial infection) In case of FCV infection, plays a role in the ribosomal termination-reinitiation event leading to the translation of VP2 (PubMed:18056426).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab238921 is the carrier-free version of ab133601.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	The eukaryotic initiation factor 3 subunit B (eIF3B) also known as EIF3S9 or p116 plays a central role in the initiation of translation. This protein has a mass of approximately 97 kDa and serves as an important component of the eIF3 complex important for assembling the 40S ribosomal subunit with mRNA and initiator tRNA. eIF3B is ubiquitously expressed in various tissues indicating its fundamental role in cellular protein synthesis.
Biological function summary	EIF3B functions as part of the large eIF3 complex which consists of 13 subunits. This complex is important for the recruitment of mRNA to the 40S ribosomal subunit playing an essential role in the start of translation. eIF3B directly contributes to stabilizing the interaction between mRNA and the ribosome promoting the accurate and efficient formation of the translation initiation complex. This function highlights the importance of eIF3B in regulating cellular protein levels.
Pathways	EIF3B participates in key processes of mRNA translation and is integral to the translation initiation pathway. It interacts with other translation initiation factors including eIF4F and eIF5 orchestrating the assembly and positioning of the ribosome for translation initiation. Moreover eIF3B is also involved in the mTOR signaling pathway linking nutrient sensing to protein synthesis regulation.
Associated diseases and disorders	EIF3B has been associated with various types of cancer such as breast and prostate cancer where its increased expression correlates with tumor progression and poor prognosis. The dysfunction of eIF3B affects protein synthesis and cell proliferation contributing to oncogenesis. Furthermore eIF3B's role is connected to the dysregulation of mTOR pathways which is significant in cancer development. Its interaction with other proteins like eIF4E and eIF5 signifies its impact on cancer progression pathways.

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

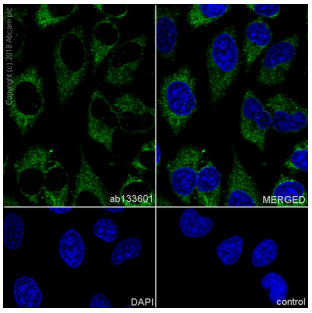
We do not recommend this combination. It is not covered by our product promise.

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.

3 product images

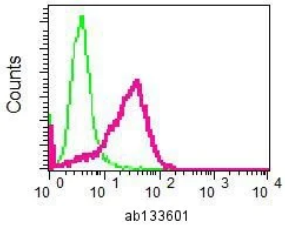


Immunocytochemistry/ Immunofluorescence - Anti-eIF3B antibody [EPR5804] - BSA and Azide free (ab238921)

EIF3B Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-eIF3B antibody

Immunocytochemistry/ Immunofluorescence analysis of HeLa (human cervix adenocarcinoma epithelial cell) cells labeling eIF3B with purified ab133601 at 1/500 dilution (4.1 µg/mL). Cells were fixed in 100% Methanol. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/mL) dilution. DAPI (blue) was used as nuclear counterstain.

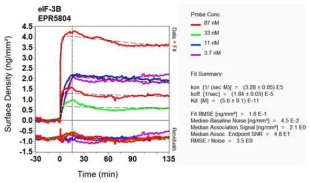
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133601).



Flow Cytometry (Intracellular) - Anti-eIF3B antibody [EPR5804] - BSA and Azide free (ab238921)

EIF3B Flow Cytometry (Intracellular) staining using rabbit Anti-eIF3B antibody

Intracellular flow cytometric analysis of permeabilized HeLa cells labelling eIF3B with ab133601 at 1/10 (red) with a Rabbit IgG control (green).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133601).



OI-RD Scanning - Anti-eIF3B antibody [EPR5804] - BSA and Azide free (ab238921)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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