abcam

ab303524

Anti-eRF3A/GSPT1 antibody [EPR27296-4]

Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524) is a rabbit monoclonal antibody detecting eRF3/GSPT1 in **Western Blot, Flow Cytometry (Intra), IP, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency

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	EPR27296-4
Purification technique	Affinity purification Protein A
Concentration	0.525 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	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

IHC-P

Not recommended

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

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

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

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30

Notes	-

Expected

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

Target data

See full target information GSPT1

Function	GTPase component of the eRF1-eRF3-GTP ternary complex, a ternary complex that mediates translation termination in response to the termination codons UAA, UAG and UGA (PubMed:15987998, PubMed:19417105, PubMed:2511002, PubMed:27863242). GSPT1/ERF3A mediates ETF1/ERF1 delivery to stop codons: The eRF1-eRF3-GTP complex binds to a stop codon in the ribosomal A-site (PubMed:27863242). GTP hydrolysis by GSPT1/ERF3A induces a conformational change that leads to its dissociation, permitting ETF1/ERF1 to accommodate fully in the A-site (PubMed:16777602, PubMed:27863242). Component of the transient SURF complex which recruits UPF1 to stalled ribosomes in the context of nonsense-mediated decay (NMD) of mRNAs containing premature stop codons (PubMed:24486019). Required for SHFL-mediated translation termination which inhibits programmed ribosomal frameshifting (-1PRF) of mRNA from viruses and cellular genes (PubMed:30682371).

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

What is this antibody validated in?
Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of eRF3/GSPT1?
Anti-eRF3A/GSPT1 [EPR27296-4] (ab303524) specifically detects a band for eRF3/GSPT1 (UniProt: P15170) at a molecular weight of 55kDa.

Other related products
We have a range of other formats of antibody clone [EPR27296-4] also available for your convenience: ab303524, Carrier free - ab303525

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.

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	The eRF3/GSPT1 protein also known as GSPT1 plays an important role in translation termination. It works with eRF1 to release the newly synthesized polypeptide chain from the ribosome. GSPT1 is a GTPase of approximately 69 kDa commonly expressed in human tissues with higher concentrations found in proliferating cells such as those in the bone marrow and lymphoid tissues. It implements essential tasks in protein synthesis regulation by facilitating proper translation termination.
Biological function summary	GSPT1 is involved in processes beyond translation termination. It associates with complexes that regulate mRNA translation and stability. As part of the eRF3 pathway GSPT1 interacts with various translation and post-translation machinery. Its molecular function extends to include potential interactions with lncRNAs such as lnc-SNHG16 indicating a role in cellular processes like cell growth and division. GSPT1's interaction network suggests that it performs multifunction in cell regulation.

Pathways	GSPT1 integrates into the translation termination pathway tightly linking with the mRNA surveillance pathway. This protein is essential for efficient recognition and release of stop codons. In these pathways it collaborates with proteins such as eRF1 to regulate mRNA stability and translation accuracy. These interactions ensure the fidelity of protein biosynthesis and proper cellular function.
Associated diseases and disorders	The role of GSPT1 extends to cancer and neurodegenerative diseases. Overexpression or mutations of GSPT1 links to various cancers including gastric and colorectal cancers where it affects cell proliferation pathways. The GSPT1-Myc axis appears to contribute significantly to oncogenesis acting with proteins like c-Myc to promote tumorigenesis. Additionally disruptions in GSPT1 function could associate with neurological disorders where translation termination processes malfunction although these aspects require further study.

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

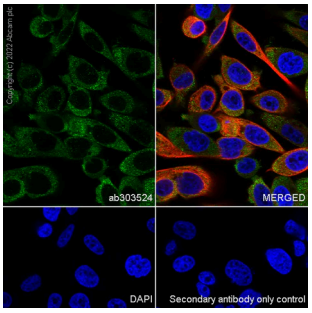
We do not recommend this combination. It is not covered by our product promise.

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.

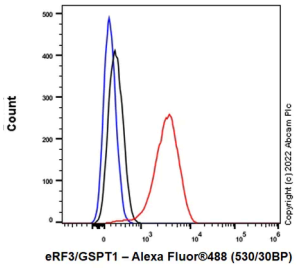
Full details and terms and conditions can be found here:
Terms & Conditions.

7 product images



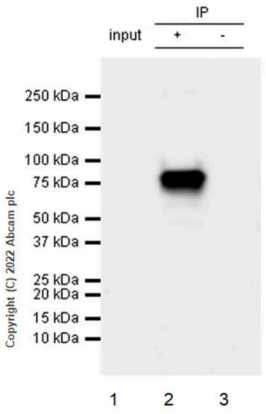
Immunocytochemistry/ Immunofluorescence - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized PC-3 (human prostate adenocarcinoma epithelial cell) cells labelling eRF3A/GSPT1 with ab303524 at 1/100 (4.94 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing mainly cytoplasmic staining in PC-3 cell lines. The image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5 ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Flow Cytometry - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized PC-3 (human prostate adenocarcinoma epithelial cell) cells labelling eRF3A/GSPT1 with ab303524 at 1/500 dilution (0.1ug) (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 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524)

eRF3A/GSPT1 was immunoprecipitated from 0.35 mg PC-3 (human prostate adenocarcinoma epithelial cell), whole cell lysate 10 ug with ab303524 at 1/30 dilution (2 µg in 0.35 mg lysates). Western blot was performed on the immunoprecipitate using ab303524 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 10 µg (Inset) Lane 2: ab303524 IP in PC-3 whole cell lysate Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab303524 in PC-3 whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 3 seconds.
All lanes:
Immunoprecipitation - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524) at 1/30 dilution

Lane 1:
PC-3 (human prostate adenocarcinoma epithelial cell) at 10 µg

Lane 2:
ab303524 IP in PC-3 whole cell lysate

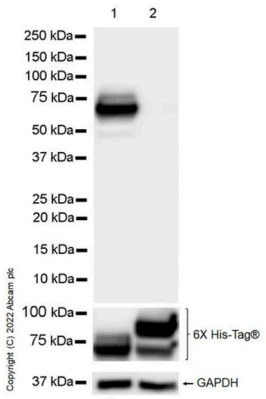
Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Predicted band size: 56 kDa

Observed band size: 80 kDa

Exposure time: 3s



Western blot - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524)

Blocking / Diluting buffer and concentration: 5% NFDM/TBST
All lanes:
Western blot - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524) at 1/1000 dilution

Lane 1:
HEK-293T transfected with human ERF3A expression vector containing a myc-His-tag®, whole cell lysate at 20 µg

Lane 2:
HEK-293T transfected with human ERF3B expression vector containing a myc-His-tag®, whole cell lysate at 20 µg

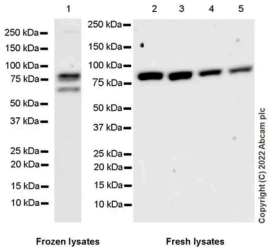
Secondary

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

Predicted band size: 56 kDa

Observed band size: 80 kDa

Exposure time: 5.5s



Western blot - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524)

Blocking / Diluting buffer and concentration: 5% NFDM/TBST Exposure time: Lane 1: 136 seconds Lane 2-5: 48 seconds In lane 1, the lysates were stored at -80☒ prior to Western Blotting. The bands beneath the target band (80 kDa) are expected to be degradation products. In lane 2-5, the lysates were freshly made and used for Western Blotting immediately to minimize protein degradation.
All lanes:
Western blot - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524) at 1/1000 dilution

Lanes 1 - 2:
HeLa (human epithelial cell line from cervical adenocarcinoma), whole cell lysate at 20 µg

Lane 3:
293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

Lane 4:
NIH/3T3 (mouse embryonic fibroblast), whole cell lysate at 20 µg

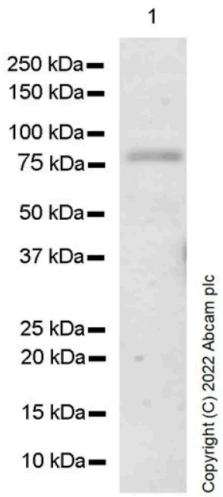
Lane 5:
PC-12 (rat adrenal gland pheochromocytoma), whole cell lysate at 20 µg

Secondary

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

Predicted band size: 56 kDa

Observed band size: 80 kDa



Western blot - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524)

Blocking / Diluting buffer and concentration: 5% NFDM/TBST.
This blot was developed using a high sensitivity ECL substrate. The high-sensitivity ECL substrate used allows for the detection of proteins in the mid-femtogram range.

All lanes:
Western blot - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524) at 1/1000 dilution

All lanes:
Rat spleen tissue lysate at 20 µg

Secondary

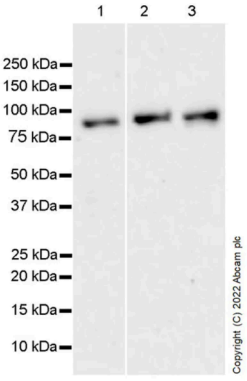
All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Developed using the ECL technique.

Predicted band size: 56 kDa

Observed band size: 80 kDa

Exposure time: 3min



Western blot - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524)

Blocking / Diluting buffer and concentration: 5% NFDM/TBST.
This blot was developed using a high sensitivity ECL substrate. The high-sensitivity ECL substrate used allows for the detection of proteins in the mid-femtogram range.

Lysates were freshly made and used immediately to minimize protein degradation.

All lanes:
Western blot - Anti-eRF3A/GSPT1 antibody [EPR27296-4] (ab303524) at 1/1000 dilution

Lane 1:
Mouse brain tissue lysate at 20 µg

Lane 2:
Mouse testis tissue lysate at 20 µg

Lane 3:
Mouse spleen tissue lysate at 20 µg

Secondary

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

Developed using the ECL technique.

Predicted band size: 56 kDa

Observed band size: 80 kDa

Exposure time: 3min

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