abcam

ab315234

Anti-ITM2B antibody [EPR27849-47]

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	EPR27849-47
Purification technique	Affinity purification Protein A
Concentration	0.529 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Rat

Dilution info	1/50
Notes	-

Expected

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

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, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information ITM2B

Function	Plays a regulatory role in the processing of the amyloid-beta A4 precursor protein (APP) and acts as an inhibitor of the amyloid-beta peptide aggregation and fibrils deposition. Plays a role in the induction of neurite outgrowth. Functions as a protease inhibitor by blocking access of secretases to APP cleavage sites. Mature BRI2 (mBRI2) functions as a modulator of the amyloid-beta A4 precursor protein (APP) processing leading to a strong reduction in the secretion of secretase-processed amyloid-beta protein 40 and amyloid-beta protein 42. Bri23 peptide prevents aggregation of APP amyloid-beta protein 42 into toxic oligomers.

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	ITM2B also known as Integral Membrane Protein 2B or BRI2 is a transmembrane protein weighing approximately 30 kDa. This protein is expressed widely in human tissues showing particularly high levels in the central nervous system and brain. ITM2B functions mechanically by playing a role in protein processing and trafficking owing to its transmembrane nature. With an integral role in cellular functions ITM2B interacts with various cellular components associated with membrane-related activities.
Biological function summary	ITM2B engages in several vital cellular processes such as regulation of amyloid precursor protein (APP) processing. ITM2B forms part of a complex with other proteins involved in APP cleavage which is significant for maintaining cell homeostasis. It also influences neuronal functions through its effects on synaptic plasticity and could impact cognitive abilities. The protein's presence in brain regions ties ITM2B closely to neural activities where protein interactions are essential for cellular communication.
Pathways	ITM2B exerts influence on critical processes in amyloidogenic pathways contributing to the modulation of amyloid-beta production. This protein directly interacts with other players like APP and presenilin 1 within this pathway affecting the levels of amyloids and ultimately impacting neural integrity. Additionally

	ITM2B participates in Wnt signaling pathways linking it to cellular differentiation and proliferation where it modulates interactions with proteins that convey Wnt signals such as beta-catenin.
Associated diseases and disorders	ITM2B is directly linked to familial British dementia and familial Danish dementia both neurodegenerative conditions. These diseases involve mutations in the ITM2B gene leading to abnormal protein aggregates that disrupt normal brain function. ITM2B's relationship with amyloid-beta and presenilin 1 also connects it to Alzheimer's disease pathogenesis where these proteins play roles in amyloid plaque formation a hallmark of Alzheimer's. Studies focus on targeting ITM2B interactions and processing to develop therapies for these conditions highlighting its potential as a therapeutic target.

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

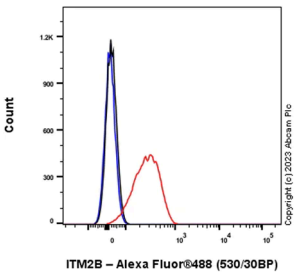
We do not recommend this combination. It is not covered by our product promise.

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.

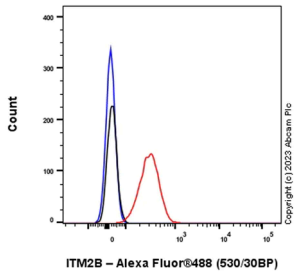
6 product images



Flow Cytometry (Intracellular) - Anti-ITM2B antibody [EPR27849-47] (ab315234)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Rat primary neuron cells labelling ITM2B with ab315234 at 1/50 dilution (1 ug, 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).

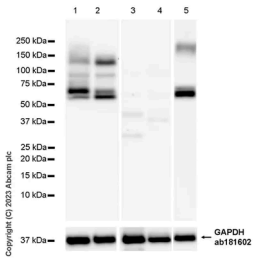
Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-ITM2B antibody [EPR27849-47] (ab315234)

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Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Western blot - Anti-ITM2B antibody [EPR27849-47] (ab315234)

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

Low expression: liver, skeletal muscle (PMID: 10391242)

55 kDa pro-ITM2B and 42-17 kDa ITM2B band were observed. Bands beneath 42 kDa were cleavage fragments (PMID: 24524963).

Samples are non-boiled as boiling may cause protein aggregation.

There is an unknown band at 120 kDa.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-ITM2B antibody [EPR27849-47] (ab315234) at 1/1000 dilution

Lane 1:
Human hippocampus tissue lysate at 20 µg

Lane 2:
Human cerebellum tissue lysate at 20 µg

Lane 3:
Human skeletal muscle tissue lysate at 20 µg

Lane 4:
Human liver tissue lysate at 20 µg

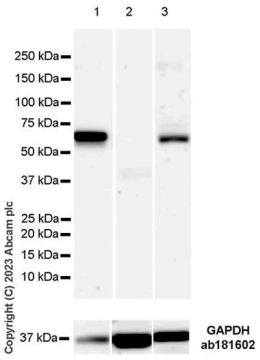
Lane 5:
SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate at 20 µg

Secondary

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

Observed band size: 55 kDa, 42-17 kDa, 36 kDa

Exposure time: 10s



Western blot - Anti-ITM2B antibody [EPR27849-47] (ab315234)

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

Low expression: skeletal muscle (PMID: 12566161, PMID: 10391242)

55 kDa pro-ITM2B and 42-17 kDa ITM2B band were observed. Bands beneath 42 kDa were cleavage fragments (PMID: 24524963).

Samples are non-boiled as boiling may cause protein aggregation.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-ITM2B antibody [EPR27849-47] (ab315234) at 1/1000 dilution

Lane 1:
Rat hippocampus tissue lysate at 20 µg

Lane 2:
Rat skeletal muscle tissue lysate at 20 µg

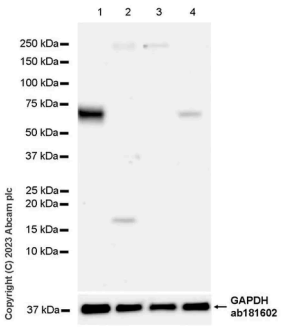
Lane 3:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

Secondary

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

Observed band size: 55 kDa, 42-17 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-ITM2B antibody [EPR27849-47] (ab315234)

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

Low expression: liver, spleen, testis (PMID: 12566161).

The expression molecular weight observed is consistent with what has been described in the literature (PMID: 24524963, PMID: 28131015)

55 kDa pro-ITM2B and 42-17 kDa ITM2B band were observed. Bands beneath 42 kDa were cleavage fragments (PMID: 24524963).

Samples are non-boiled as boiling may cause protein aggregation.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-ITM2B antibody [EPR27849-47] (ab315234) at 1/1000 dilution

Lane 1:
Rat brain tissue lysate at 20 µg

Lane 2:
Rat liver tissue lysate at 20 µg

Lane 3:
Rat testis tissue lysate at 20 µg

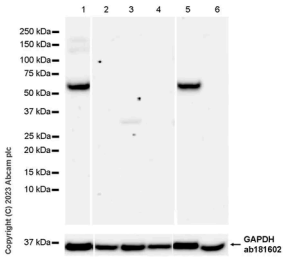
Lane 4:
Rat spleen tissue lysate at 20 µg

Secondary

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

Observed band size: 55 kDa, 42-17 kDa, 36 kDa

Exposure time: 48s



Western blot - Anti-ITM2B antibody [EPR27849-47] (ab315234)

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

Low expression: spleen, testis, liver (PMID: 12566161, PMID: 10391242).

55 kDa pro-ITM2B and 42-17 kDa ITM2B band were observed. Bands beneath 42 kDa were cleavage fragment (PMID: 24524963).

Samples are non-boiled as boiling may cause protein aggregation.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-ITM2B antibody [EPR27849-47] (ab315234) at 1/1000 dilution

Lane 1:
Mouse hippocampus tissue lysate at 20 µg

Lane 2:
Mouse testis tissue lysate at 20 µg

Lane 3:
Mouse liver tissue lysate at 20 µg

Lane 4:
Mouse spleen tissue lysate at 20 µg

Lane 5:
Rat hippocampus tissue lysate at 20 µg

Lane 6:
Rat testis tissue lysate at 20 µg

Secondary

All lanes:

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

Observed band size: 55 kDa, 42-17 kDa, 36 kDa

Exposure time: 81s

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