abcam

ab253243

Anti-ARMET/ARP antibody [EPR22538-206]

Recombinant | RabMAb | KO Validated | 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	EPR22538-206
Purification technique	Affinity purification Protein A
Concentration	0.621 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

I-ELISA

Tested

Species	Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/600
Notes	-

Target data

See full target information MANF

Function	Selectively promotes the survival of dopaminergic neurons of the ventral mid-brain (PubMed:12794311). Modulates GABAergic transmission to the dopaminergic neurons of the substantia nigra (By similarity). Enhances spontaneous, as well as evoked, GABAergic inhibitory postsynaptic currents in dopaminergic neurons (By similarity). Inhibits cell proliferation and endoplasmic reticulum (ER) stress-induced cell death (PubMed:18561914, PubMed:22637475, PubMed:29497057, PubMed:36739529). Retained in the ER/sarcoplasmic reticulum (SR) through association with the endoplasmic reticulum chaperone protein HSPA5 under normal conditions (PubMed:22637475). Stabilizes HSPA5/BiP in its substrate-bound ADP state, which facilitates HSPA5/BiP incorporation into chaperone-client complexes during endoplasmic reticulum stress, its interaction with HSPA5/BiP inhibits ATP binding to HSPA5/BiP and subsequent nucleotide exchange (By similarity). As a result acts as a repressor of the unfolded protein response (UPR) pathway (By similarity). Up-regulated and secreted by the ER/SR in response to ER stress and hypoxia (PubMed:22637475). Following secretion by the ER/SR, directly binds to 3-O-sulfogalactosylceramide, a lipid sulfatide in the outer cell membrane of target cells (PubMed:29497057). Sulfatide binding promotes its cellular uptake by endocytosis, and is required for its role in alleviating ER stress and cell toxicity under hypoxic and ER stress conditions (PubMed:29497057). Essential for embryonic lung development (By similarity). Required for the correct postnatal temporal and structural development of splenic white pulp (By similarity). Required for the repair-associated myeloid response in skeletal muscle, acts as a regulator of phenotypic transition towards prorepair macrophages in response to muscle injury and as a result limits excessive proinflammatory signaling (By similarity). Represses RELA expression and therefore NF-kB signaling in the myocardium, as a result limits macrophage infiltration of injured tissue and M1 macrophage differentiation in response to myocardial injury (By similarity). Required for endochondral ossification in long bones and the skull during postnatal development (By similarity).

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	ARMET also known as Arp is a 19 kDa protein known for its role in cellular stress responses. It is alternatively named MANF (Mesencephalic Astrocyte-derived Neurotrophic Factor) in some studies. This protein is widely expressed including in the brain liver and pancreas reflecting its involvement across different cellular environments. ARMET/ARP interacts with the endoplasmic reticulum to address misfolded protein loads and support cell survival under stress.
Biological function summary	ARMET plays a significant role in maintaining cellular homeostasis especially under stress conditions. It does not form a larger complex but functions as a standalone factor that aids in the proper folding of proteins within the endoplasmic reticulum. Additionally ARMET has protective effects on dopaminergic neurons which are critical for neuromolecular processes. This protein has connections to cellular survival pathways acting as a neurotrophic factor to support neuron maintenance and health.
Pathways	ARMET is an important player in the unfolded protein response (UPR) and the neuroprotective pathways. In these pathways ARMET interacts with other proteins involved in protein folding and stress responses such as BiP/GRP78. These interactions help prevent apoptosis and promote cell survival by ensuring that cells can cope with endoplasmic reticulum stress. The ability of ARMET to enhance neuronal survival links it to pathways important for neuroprotection.
Associated diseases and disorders	ARMET has been associated with neurodegenerative diseases such as Parkinson's disease and diabetes. In Parkinson's disease the survival-promoting effects of ARMET on dopaminergic neurons become vital potentially offering therapeutic targets. Connections between ARMET and diabetes surface through its regulation of beta-cell survival in the pancreas suggesting a role in maintaining insulin production and glucose homeostasis. In these diseases ARMET may interact with other proteins like proinsulin which holds significance for maintaining endocrine functions.

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

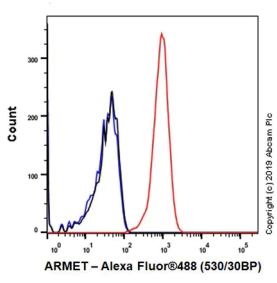
We do not recommend this combination. It is not covered by our product promise.

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.

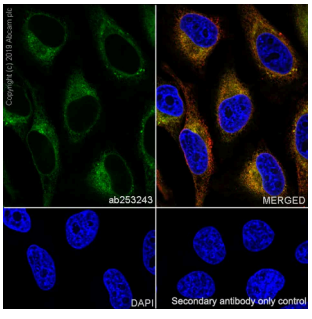
7 product images



Flow Cytometry (Intracellular) - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243)

ARMET/ARP Flow Cytometry (Intracellular) staining using rabbit Anti-ARMET/ARP antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cell line labeling ARMET/ARP with ab253243 at 1/600 (red) compared with a Rabbit monoclonal IgG (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.

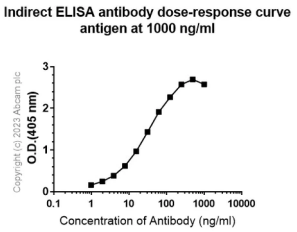


Immunocytochemistry/ Immunofluorescence - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243)

ARMET/ARP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ARMET/ARP antibody

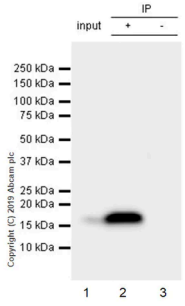
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labeling ARMET/ARP with ab253243 at 1/100

dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining in HeLa cell line. The nuclear counterstain is DAPI (blue). Counterstained with ab12223 Anti-KDEL antibody - Endoplasmic reticulum Marker (Mouse monoclonal) ab150120 AlexaFluor®594 Goat anti-Mouse secondary.
Secondary antibody only control: Used PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Indirect ELISA - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243)

ELISA analysis of Human ARMET protein at 1000 ng/mL with ab253243 at 1000-0 ng/mL. An Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) at 1/2500 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243)

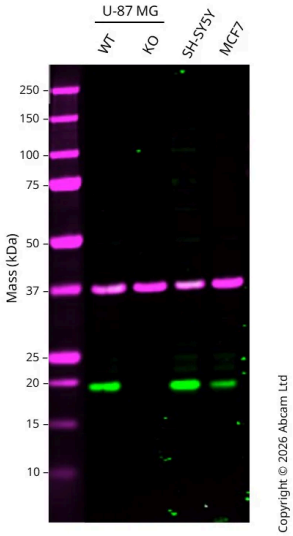
ARMET/ARP was immunoprecipitated from 0.35 mg HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate with ab253243 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab253243 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used at 1/5000 dilution.
Lane 1: HeLa whole cell lysate 10 µg (Input).
Lane 2: ab253243 IP in HeLa whole cell lysate.
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab253243 in HeLa whole cell lysate.

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: 15 seconds.

All lanes:
Immunoprecipitation - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243)

Predicted band size: 20 kDa

Observed band size: 18 kDa



Western blot - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243)

ARMET/ARP Western blot staining using rabbit Anti-ARMET/ARP antibody

Western blot: Anti-ARMET/ARP antibody [EPR22538-206] ab253243 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 21 kDa in Wild-type U-87 MG cell line with no signal observed at this size in MANF knockout U-87 MG cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243) at 1/1000 dilution

Lane 1:
Wild-type U-87 MG cell lysates at 20 µg

Lane 2:
MANF knockout U-87 MG cell lysates at 20 µg

Lane 3:
SH-SY5Y cell lysates at 20 µg

Lane 4:
MCF7 cell lysates at 20 µg

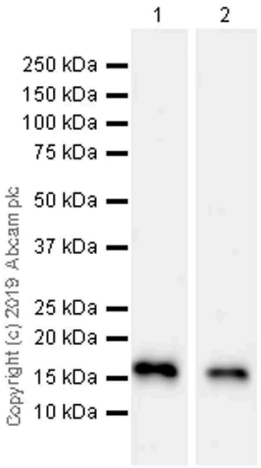
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 21 kDa

Observed band size: 21 kDa



Western blot - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243)

The expression profile/molecular weight observed is consistent with what has been described in the literature (PMID: 22637475).
Blocking/Dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243) at 1/1000 dilution

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

Lane 2:
HT-1080 (human fibrosarcoma epithelial cell), whole cell lysate at 20 µg

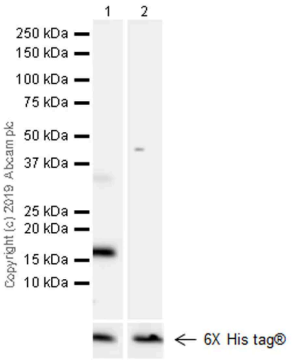
Secondary

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

Predicted band size: 20 kDa

Observed band size: 18 kDa

Exposure time: 59s



Western blot - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243)

No cross reactivity was found for CDNF.
Blocking/Dilution: 5% NFDM/TBST.

All lanes:
Western blot - Anti-ARMET/ARP antibody [EPR22538-206] (ab253243) at 1/1000 dilution

Lane 1:
His-tagged human ARMET/ARP recombinant protein 20 ng

Lane 2:

His-tagged human CDNF recombinant protein 20 ng

Secondary

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

Predicted band size: 20 kDa

Observed band size: 18 kDa

Exposure time: 10s

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