abcam

ab210405

Anti-TMEM119 antibody [106-6] - Microglial marker

Anti-TMEM119 antibody [106-6] - Microglial marker (ab210405) is a rabbit monoclonal antibody detecting TMEM119 in **Western Blot, Flow Cytometry**. Suitable for **Human, Mouse**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 10 publications

Lab Essentials | Recombinant | RabMAb | KO Validated

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	106-6
Purification technique	Affinity purification Protein A
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	0.1-0.5 µg/mL
Notes	For detailed protocol of microglia extraction from mouse brain, spinal cord or retina, please refer to PMID 26884166 and PMID 28963474

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human

Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information Tmem119

Function	Plays an important role in bone formation and normal bone mineralization (PubMed:20025746, PubMed:22416756, PubMed:26207632). Promotes the differentiation of myoblasts into osteoblasts (PubMed:20025746, PubMed:22416756, PubMed:22579779). May induce the commitment and differentiation of myoblasts into osteoblasts through an enhancement of BMP2 production and interaction with the BMP-RUNX2 pathway (PubMed:21239498, PubMed:22579779). Up-regulates the expression of ATF4 which plays a central role in osteoblast differentiation (PubMed:24362451). Essential for normal spermatogenesis and late testicular differentiation (PubMed:26207632).

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-TMEM119 antibody [106-6] - Microglial marker (ab210405) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt) in Mouse samples.

What is the molecular weight of TMEM119?
Anti-TMEM119 [106-6] - Microglial marker (ab210405) specifically detects a band for TMEM119 (UniProt: Q8R138) at a molecular weight of 29kDa.

Trusted by the scientific community
Anti-TMEM119 [106-6] - Microglial marker (ab210405) was first used in a scientific publication in 2016 and has been cited over 10 times in peer-reviewed journals.

Reviewed by scientists
Anti-TMEM119 [106-6] - Microglial marker (ab210405) has over 5 independent reviews from customers.

Specificity confirmed
The specificity of Anti-TMEM119 antibody [106-6] - Microglial marker (ab210405) has been confirmed by Flow Cytometry testing in Tmem119 Knockout Mouse microglia samples.

Other related products
We have a range of other formats of antibody clone [106-6] also available for your convenience: ab210405, Carrier free - ab220249, Alexa Fluor® 647 - ab225494, PE - ab225496, Alexa Fluor® 488 - ab225497

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	TMEM119 also known as transmembrane protein 119 plays a role in cell membrane dynamics. It has a molecular mass of approximately 35 kDa. TMEM119 is specifically expressed in microglia in the central nervous system. Microglia serve essential functions in brain homeostasis and immune response. Given its expression profile TMEM119 serves as a marker to identify microglia especially in research focused on neurological tissues. Researchers often utilize techniques like microglial flow cytometry and microglial staining for identification and quantification of microglial populations often in frozen marker studies.
Biological function summary	TMEM119 regulates signaling pathways that maintain microglial identity and function but does not typically form part of larger complexes. It modulates microglial activation states and influences responses to central nervous system injury and inflammation. As a membrane protein it may interact with other surface molecules although specific binding partners are not well-characterized in current literature. Researchers value TMEM119 as a reliable marker in studies aiming to distinguish brain-resident microglia from infiltrating peripheral macrophages.
Pathways	TMEM119 functions as a modulator within inflammatory and neuroimmune pathways. It plays roles in the NF-kB signaling and the neuroinflammatory cascade. Its relationship with proteins like CD68 and Iba1 indicates it may influence pathways tied to immune responses and phagocytosis within nervous system contexts. Understanding the interactions and co-expression of TMEM119 with these proteins helps clarify its contribution to neuroimmune functions.
Associated diseases and disorders	TMEM119 links with neurological conditions such as Alzheimer's disease and multiple sclerosis. Altered expression of TMEM119 appears in disease states potentially contributing to pathogenesis through disrupted inflammatory responses. Its association with proteins such as TREM2 in Alzheimer's suggests that TMEM119 may play indirect roles in the progression of neurodegeneration. Furthermore high TMEM119 levels in pathological samples provide insights into microglial involvement in disease progression and potential targets for therapeutic interventions.

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.

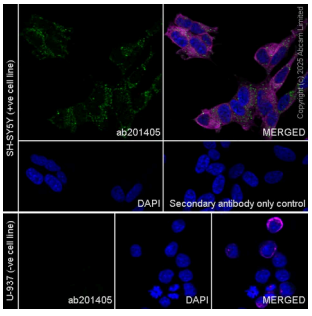
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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4 product images



Immunocytochemistry/ Immunofluorescence - Anti-TMEM119 antibody [106-6] - Microglial marker (ab210405)

TMEM119 Immunocytochemistry/ Immunofluorescence staining of SH-SY5Y (human neuroblastoma epithelial cell) using rabbit Anti-TMEM119 antibody

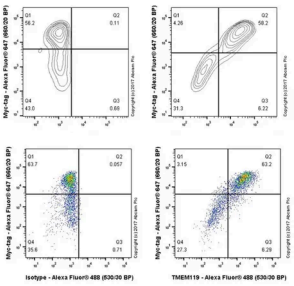
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized SH-SY5Y (human neuroblastoma epithelial cell) cells labelling TMEM119 with ab210405 at 1/200 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed (ab150081) antibody at 1/1000 dilution.
Confocal image showing cytoplasmic staining in SH-SY5Y cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue).

Negative control: U-937.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) (ab195889) was used to counterstain tubulin at 1/200 dilution (Magenta).

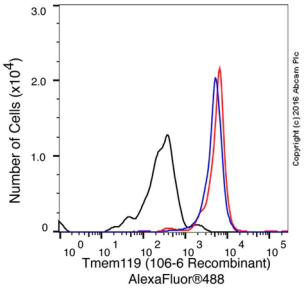
Secondary antibody only control: Secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed (ab150081) at 1/1000 dilution.



Flow Cytometry - Anti-TMEM119 antibody [106-6] - Microglial marker (ab210405)

TMEM119 Flow Cytometry staining of HEK-293T (human embryonic kidney) transfected with Myc-His tagged mouse TMEM119 expression vector using rabbit Anti-TMEM119 antibody

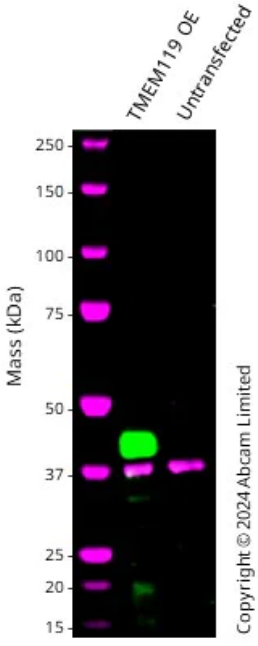
Flow cytometry analysis of HEK-293T (human embryonic kidney) transfected with Myc-His tagged mouse TMEM119 expression vector labeling TMEM119 with ab210405 at 1/2000 dilution (0.1µg/mL) (right) compared with isotype control rabbit monoclonal IgG ab172730 (Left). Cells were surface-stained with ab210405, then fixed with 2% PFA for 10 minutes and permeabilised with 0.1% Tween-20 for 30 minutes. Next, they were stained with Alexa Fluor® 647 conjugated Myc-tag antibody and Alexa Fluor® 488 conjugated secondary antibody. Only Myc-tag (+) population showed TMEM119 positive staining.
Alexa Fluor® 488 (ab225497) and R-PE (ab225496) conjugated versions are available for this clone.



Flow Cytometry - Anti-TMEM119 antibody [106-6] - Microglial marker (ab210405)

Flow cytometric analysis of acutely isolated primary mouse microglia (P60 BL6 mouse; wildtype CD11b+CD45lo brain cells) cells labeling TMEM119 with ab210405 at 0.5µg/mL (red) and 0.1µg/mL (blue), compared with TMEM119 KO primary mouse brain cells (black) stained with ab210405 at 0.5µg/mL. Goat anti-Rabbit IgG (Alexa Fluor®488) at 1/500 dilution was used as the secondary antibody.
No signal was detected on the surface of CD11b+CD45lo brain cells from TMEM119 KO mouse (black) stained with ab210405; whereas in wildtype CD11b+CD45lo brain cells, cell surface staining was observed (red 0.5ug/mL; blue 0.1ug/mL).

The data was provided by Ben Barres' lab (Stanford University). PMID: 26884166.



Western blot - Anti-TMEM119 antibody [106-6] - Microglial marker (ab210405)

TMEM119 Western blot staining using rabbit Anti-TMEM119 antibody

Western blot: Anti-TMEM119 antibody [106-6] (ab210405) staining at 1/1000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in magenta. In Western blot, ab210405 was shown to bind specifically to TMEM119. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % 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 IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.
All lanes:
Western blot - Anti-TMEM119 antibody [106-6] - Microglial marker (ab210405) at 1/1000 dilution

Lane 1:
HEK-293T overexpressing TMEM119 OE-1160 cell lysate at 20 µg

Lane 2:
HEK-293T cell lysate at 20 µg

Secondary

All lanes:

Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution

Performed under reducing conditions.

Observed band size: 40 kDa, 43 kDa

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