abcam

ab230880

Anti-TPM4 antibody - N-terminal

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human TPM4 aa 1-100 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link P67936
Purification technique	Affinity purification Protein A
Concentration	0.5 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	-

Predicted

Species	Pig

Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	-

Predicted

Species	Pig
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Pig
Dilution info	-
Notes	-

Target data

See full target information TPM4

Function	Binds to actin filaments in muscle and non-muscle cells. Plays a central role, in association with the troponin complex, in the calcium dependent regulation of vertebrate striated muscle contraction. Smooth muscle contraction is regulated by

interaction with caldesmon. In non-muscle cells is implicated in stabilizing cytoskeleton actin filaments (By similarity). Binds calcium (PubMed:1836432). Plays a role in platelet biogenesis.

Storage

Shipped at conditions	Blue Ice
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

Supplementary info

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

Activity summary	TPM4 also known as tropomyosin 4 or TM4 is a protein that helps regulate muscle contraction and stabilize actin filaments. It has a molecular mass of approximately 28 kDa. TPM4 expression occurs in various tissues including both skeletal and smooth muscle tissues as well as in non-muscle cells. This protein is part of a larger family of tropomyosins which bind to actin filaments and play an important role in modulating actin's interaction with other proteins.
Biological function summary	TPM4 contributes to the regulation of the actin cytoskeleton dynamics influencing cell movement and shape. TPM4 like other tropomyosins associates with actin filaments and forms a part of a complex with other actin-binding proteins such as tropomodulins. This complex is critical in both maintaining filament stability and facilitating the sliding of actin filaments during muscle contraction and other cellular activities.
Pathways	TPM4 participates actively in the cytoskeletal signaling and muscle contraction pathways. It interacts with important components in these pathways such as myosin allowing coordinated muscle contractions. TPM4 also plays a role in the regulation of the RhoA signaling pathway which is connected to cytoskeletal rearrangement and cell motility. These interactions highlight TPM4's integral position in biological processes relying on actin filament dynamics.
Associated diseases and disorders	Misregulation of TPM4 can influence the development of conditions such as cardiomyopathies and cancer. Alterations in its expression or function may link to familial hypertrophic cardiomyopathy where it interacts with cardiac-specific

proteins like cardiac myosin heavy chain (MYH7). Furthermore changes in TPM4 expression levels may associate with cancer metastasis in part due to its role in cell motility and invasion pointing to potential connections with proteins like cofilin during cancer progression.

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

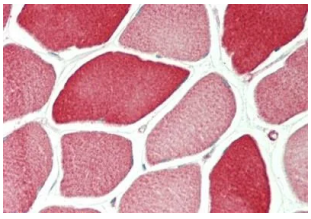
We do not recommend this combination. It is not covered by our product promise.

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.

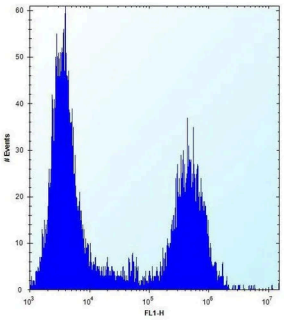
4 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TPM4 antibody - N-terminal (ab230880)

TPM4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TPM4 antibody

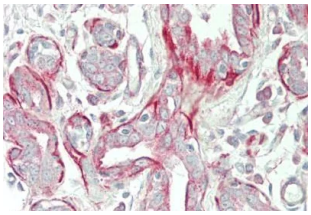
Formalin-fixed, paraffin-embedded human skeletal muscle tissue stained for TPM4 using ab230880 at 1/100 dilution in immunohistochemical analysis.



Flow Cytometry (Intracellular) - Anti-TPM4 antibody - N-terminal (ab230880)

TPM4 Flow Cytometry (Intracellular) staining using rabbit Anti-TPM4 antibody

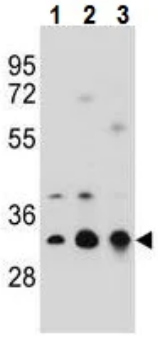
Intracellular flow cytometric analysis of U-251 MG (Human brain glioma cell line) cells labeling TPM4 with ab230880 at 1/10 dilution (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TPM4 antibody - N-terminal (ab230880)

TPM4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TPM4 antibody

Formalin-fixed, paraffin-embedded human placenta tissue stained for TPM4 using ab230880 at 1/100 dilution in immunohistochemical analysis.



Western blot - Anti-TPM4 antibody - N-terminal (ab230880)

All lanes:
Western blot - Anti-TPM4 antibody - N-terminal (ab230880) at 1/1000 dilution

Lane 1:
U-251 MG (Human brain glioma cell line) cell lysate at 35 µg

Lane 2:
A549 (Human lung carcinoma cell line) cell lysate at 35 µg

Lane 3:
Jurkat (Human T cell leukemia cell line from peripheral blood) cell lysate at 35 µg

Predicted band size: 28 kDa

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