abcam

ab126824

Anti-Troponin I fast skeletal muscle antibody [2F12G2]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human TNNI2. Database link P48788
Clone number	2F12G2
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	1/200 - 1/400

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

Not recommended

Species	Recombinant fragment
Dilution info	-
Notes	-

ELISA

Tested

Species	Recombinant fragment
Dilution info	1/10000
Notes	-

Expected

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

WB

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment
Dilution info	-
Notes	-

Target data

See full target information TNNI2

Function	Troponin I is the inhibitory subunit of troponin, the thin filament regulatory complex which confers calcium-sensitivity to striated muscle actomyosin ATPase activity.

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

Supplementary info

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

Activity summary	Troponin I fast skeletal muscle also known as TNNI2 is a protein involved in muscle contraction. It weighs around 21.2 kDa and is mainly expressed in fast-twitch skeletal muscle. TNNI2 acts by inhibiting actomyosin ATPase activity meaning it helps prevent muscle contraction until it receives a signal to contract. It binds to actin and plays a regulatory role in the muscle contraction process.
Biological function summary	Troponin I fast skeletal muscle interacts within the troponin complex which includes Troponin T and Troponin C. Located on the thin filament of the muscle fiber this complex modulates the contraction of striated muscle by controlling calcium binding. When calcium binds to Troponin C it induces a conformational change that displaces TNNI2 from actin allowing for muscle contraction to occur.
Pathways	Troponin I fast skeletal muscle has essential functions in the calcium modulation pathways specific to muscle contraction. It plays an important role in the regulation of muscle contraction by interacting with calcium ions and other proteins such as tropomyosin. As part of the excitation-contraction coupling pathway TNNI2 helps ensure the proper contraction of muscles in response to neural stimulation. Additionally its role in these pathways involves specific interactions with proteins like Troponin C and Troponin T which are necessary for functional muscle contraction.
Associated diseases and disorders	Abnormalities in Troponin I fast skeletal muscle can lead to muscle-related conditions such as nemaline myopathy and distal arthrogryposis. These disorders affect muscle structure and function leading to muscle weakness or deformities. Mutations in TNNI2 may result in improper interaction with other sarcomeric proteins such as tropomyosin disrupting normal muscle contraction and leading to the mentioned diseases. Understanding the role of TNNI2 in these disorders can aid in the development of diagnostic and therapeutic strategies.

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

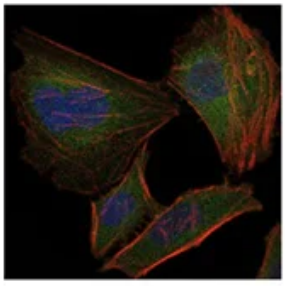
We do not recommend this combination. It is not covered by our product promise.

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.

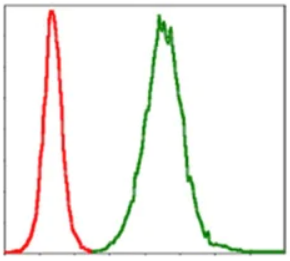
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-Troponin I fast skeletal muscle antibody [2F12G2] (ab126824)

Troponin I fast skeletal muscle Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Troponin I fast skeletal muscle antibody

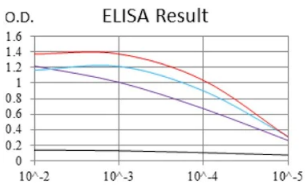
Immunofluorescence analysis of Hela cells using ab126824 at 1/200 (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.



Flow Cytometry - Anti-Troponin I fast skeletal muscle antibody [2F12G2] (ab126824)

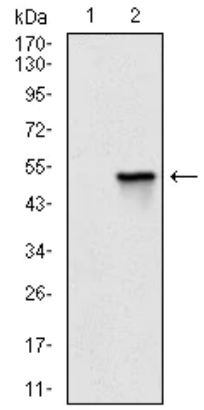
Troponin I fast skeletal muscle Flow Cytometry staining using mouse Anti-Troponin I fast skeletal muscle antibody

Flow cytometric analysis of NIH/3T3 cells using ab126824 AT 1/200 (green) and negative control (red).



ELISA - Anti-Troponin I fast skeletal muscle antibody [2F12G2] (ab126824)

Example of standard curves obtained using ab126824. Control antigen 100ng (black), antigen 10ng (purple), antigen 50ng (blue), antigen 100ng (red)



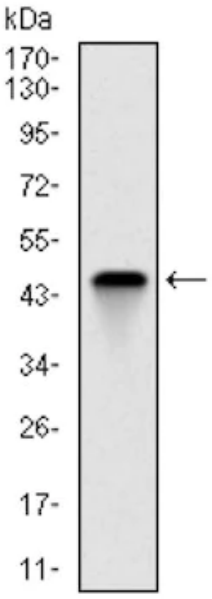
Western blot - Anti-Troponin I fast skeletal muscle antibody [2F12G2] (ab126824)

All lanes:
Western blot - Anti-Troponin I fast skeletal muscle antibody [2F12G2] (ab126824) at 1/500 dilution

Lane 1:
HEK293 cell lysate

Lane 2:
TNNI2 (AA: 1-182)-hIgGFc transfected HEK293 cell lysate

Predicted band size: 21 kDa



Western blot - Anti-Troponin I fast skeletal muscle antibody [2F12G2] (ab126824)

All lanes:
Western blot - Anti-Troponin I fast skeletal muscle antibody [2F12G2] (ab126824) at 1/500 dilution

All lanes:
Recombinant Human TNNI2 protein (AA: 1-182)

Predicted band size: 21 kDa

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