abcam

Product datasheet

Anti-Frataxin antibody [17A11] ab113691

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Overview

Product name	Anti-Frataxin antibody [17A11]
Description	Mouse monoclonal [17A11] to Frataxin
Host species	Mouse
Tested applications	**Suitable for:** WB, ICC/IF, Flow Cyt, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Cow, Human, Recombinant fragment
Immunogen	Recombinant fragment within Human Frataxin aa 1-120. The exact sequence is proprietary. Database link: **Q16595**
Positive control	WB: heart, liver tissue lysate. IHC-P: heart muscle, liver, kidney tissue (FFPE).
General notes	This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact **orders@abcam.com**. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As Product was previously marketed under the MitoSciences sub-brand.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C.
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituent: HEPES buffered saline
Purification notes	The antibody was produced in vitro using hybridomas grown in serum-free medium, and then purified by affinity purification.
Clonality	Monoclonal
Clone number	17A11

Isotype	IgG1
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab113691 in the following tested applications.

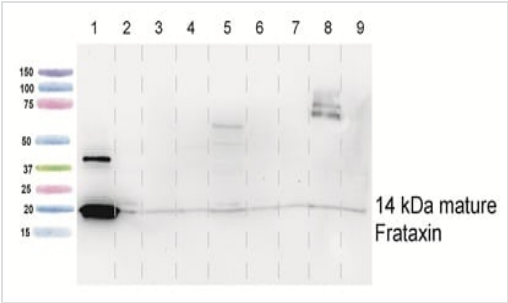
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆ (2)	Use a concentration of 4 µg/ml. Detects a band of approximately 14 kDa (predicted molecular weight: 14 kDa).
ICC/IF	★★★★★ (1)	Use a concentration of 1 µg/ml.
Flow Cyt		Use a concentration of 1 µg/ml. **ab170190** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
IHC-P		Use a concentration of 10 µg/ml.

Target

Function	Promotes the biosynthesis of heme and assembly and repair of iron-sulfur clusters by delivering Fe(2+) to proteins involved in these pathways. May play a role in the protection against iron-catalyzed oxidative stress through its ability to catalyze the oxidation of Fe(2+) to Fe(3+); the oligomeric form but not the monomeric form has in vitro ferroxidase activity. May be able to store large amounts of iron in the form of a ferrihydrite mineral by oligomerization; however, the physiological relevance is unsure as reports are conflicting and the function has only been shown using heterologous overexpression systems. Modulates the RNA-binding activity of ACO1.
Tissue specificity	Expressed in the heart, peripheral blood lymphocytes and dermal fibroblasts.
Involvement in disease	Defects in FXN are the cause of Friedreich ataxia (FRDA) [MIM:229300]. FRDA is an autosomal recessive, progressive degenerative disease characterized by neurodegeneration and cardiomyopathy it is the most common inherited ataxia. The disorder is usually manifest before adolescence and is generally characterized by incoordination of limb movements, dysarthria, nystagmus, diminished or absent tendon reflexes, Babinski sign, impairment of position and vibratory senses, scoliosis, pes cavus, and hammer toe. In most patients, FRDA is due to GAA triplet repeat expansions in the first intron of the frataxin gene. But in some cases the disease is due to mutations in the coding region.
Sequence similarities	Belongs to the frataxin family.
Post-translational modifications	Processed in two steps by mitochondrial processing peptidase (MPP). MPP first cleaves the precursor to intermediate form and subsequently converts the intermediate to yield frataxin mature form (frataxin(81-210)) which is the predominant form. The additional forms, frataxin(56-210) and frataxin(78-210), seem to be produced when the normal maturation process is impaired; their physiological relevance is unsure.
Cellular localization	Cytoplasm. Mitochondrion. PubMed:18725397 reports localization exclusively in mitochondria.

Images



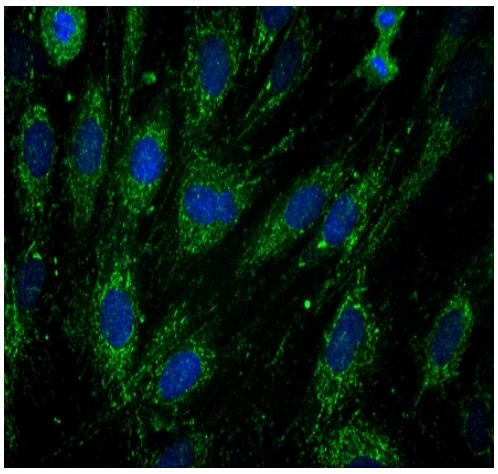
Western blot - Anti-Frataxin antibody [17A11] (ab113691)

All lanes : Anti-Frataxin antibody [17A11] (ab113691)

Lane 1 : Recombinant frataxin
at 0.1 µg
Lane 2 : Human heart mitochondria
at 15 µg
Lane 3 : Human liver mitochondria
at 15 µg
Lane 4 : HepG2 whole cell lysate
at 15 µg
Lane 5 : Bovine heart mitochondria
at 15 µg
Lane 6 : H9C2 rat whole cell lysate
at 15 µg
Lane 7 : MEF mouse embryonic fibroblast
at 15 µg
Lane 8 : Mouse liver mitochondria
at 15 µg
Lane 9 : Rat liver mitochondria

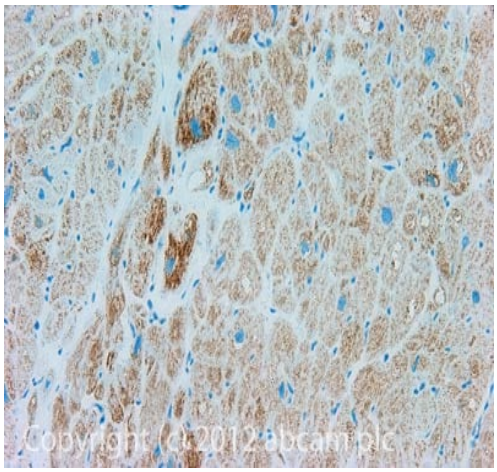
at 15 µg

Predicted band size: 14 kDa



Immunocytochemistry/ Immunofluorescence - Anti-Frataxin antibody [17A11] (ab113691)

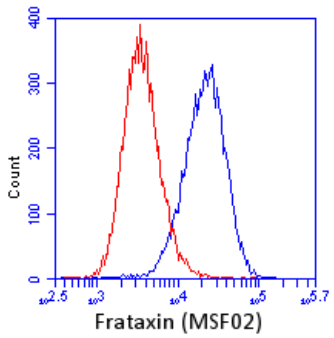
ab113691 stained fibroblast cells. The cells were paraformaldehyde fixed (4%, 20 min) and Triton X-100 permeabilized (0.1%, 15min). The cells were incubated with the antibody (ab113691, 1µg/ml) for 2h at room temperature or over night at 4°C. The secondary antibody was (green) Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. 10% Goat serum was used as the blocking agent for all blocking steps. The target protein locates to the mitochondrial matrix.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Frataxin antibody [17A11] (ab113691)

IHC image of Frataxin staining in Human normal heart muscle formalin fixed paraffin embedded tissue section, performed on a Leica BondTM system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab113691, 10µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Flow Cytometry - Anti-Frataxin antibody [17A11] (ab113691)

Normal human lymphoblast cells were stained with 1 µg/mL ab113691 (blue) or an equal amount of an isotype control antibody (red) and analyzed by flow cytometry.

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