abcam

ab2796

Anti-NFAT2 antibody [7A6]

KO Validated

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	7A6
Purification technique	Affinity purification
Light chain type	kappa
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells

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

Predicted

Species	Mouse, Rat, Hamster, Primates
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, Hamster, Primates
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, Hamster, Primates
Dilution info	-
Notes	-

Target data

See full target information NFATC1

Function	Plays a role in the inducible expression of cytokine genes in T-cells, especially in the induction of the IL-2 or IL-4 gene transcription. Also controls gene expression in embryonic cardiac cells. Could regulate not only the activation and proliferation but also the differentiation and programmed death of T-lymphocytes as well as lymphoid and non-lymphoid cells (PubMed:10358178). Required for osteoclastogenesis and regulates many genes important for osteoclast differentiation and function (By similarity).

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

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

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

Activity summary	NFAT2 also known as NFATc1 is a transcription factor with a mass of approximately 100 kDa. It belongs to the Nuclear Factor of Activated T-cells (NFAT) family which plays significant roles in gene expression regulation. NFAT2 is expressed in T-cells B-cells and cardiac muscle tissues. It is activated through dephosphorylation by the enzyme calcineurin allowing it to translocate into the nucleus. NFAT2 binds to specific DNA motifs to regulate the transcription of target genes impacting various cellular processes.

Biological function summary	NFAT2 plays a significant role in the regulation of immune responses and cardiac hypertrophy. It functions as part of a complex with AP-1 (Activator Protein-1) during T-cell activation integrating signals necessary for cytokine production and immune cell differentiation. In cardiac cells NFAT2 influences the expression of genes involved in hypertrophic growth. NFAT2 contributes to the development and function of the immune system by modulating critical immune pathways and cellular proliferation.
Pathways	NFAT2 serves a vital function in the calcineurin-NFAT signaling pathway. This pathway is important for T-cell activation and is triggered by increased intracellular calcium levels leading to dephosphorylation of NFAT2. The dephosphorylated NFAT2 cooperates with proteins such as AP-1 to induce expression of cytokines like interleukin-2. NFAT2 is also linked with the MAPK signaling pathway which affects cellular proliferation and differentiation. Together these pathways highlight the integral role of NFAT2 in immune system function and cardiac development.
Associated diseases and disorders	NFAT2 has strong connections to autoimmune diseases and cardiac hypertrophy. Aberrations in NFAT2 activity and regulation are associated with autoimmune conditions due to its central role in immune response modulation. In cardiac hypertrophy heightened NFAT2 activity may lead to pathological enlargement of heart tissue. The protein has interactions with calcineurin which also influences these conditions. Understanding these relationships helps in exploring therapeutic targets for managing immune-related diseases and cardiac dysfunctions.

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

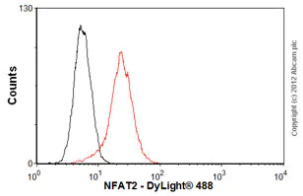
We do not recommend this combination. It is not covered by our product promise.

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:

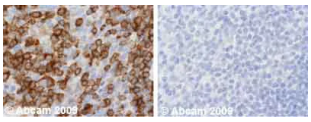
5 product images



Flow Cytometry (Intracellular) - Anti-NFAT2 antibody [7A6] (ab2796)

NFAT2 Flow Cytometry (Intracellular) staining using mouse Anti-NFAT2 antibody

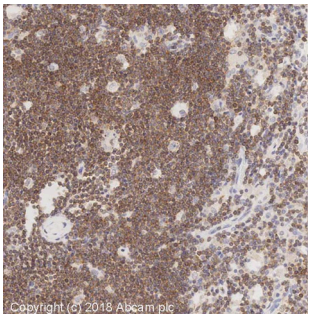
Overlay histogram showing Jurkat cells stained with ab2796 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab2796, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Jurkat cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NFAT2 antibody [7A6] (ab2796)

NFAT2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-NFAT2 antibody

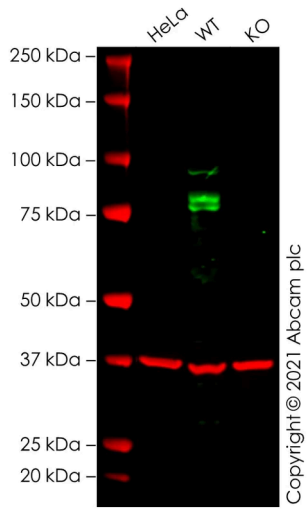
ab2796 staining human normal tonsil tissue. Staining is localized to cytoplasm and nucleus.
Left panel: with primary antibody at 1 µg/ml. **Right panel:** Isotype control.
Sections were stained using an automated system DAKO Autostainer Plus , at room temperature. Sections were rehydrated and antigen retrieved with the Dako 3-in-1 AR buffer EDTA pH 9.0 in a DAKO PT Link. Slides were peroxidase blocked in 3% H_2O_2 in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS), then incubated with primary antibody for 20 minutes, and detected with Dako Envision Flex amplification kit for 30 minutes. Colorimetric detection was completed with diaminobenzidine for 5 minutes. Slides were counterstained with hematoxylin and coverslipped under DePeX.
Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NFAT2 antibody [7A6] (ab2796)

IHC image of NFAT2 staining in a section of formalin-fixed paraffin-embedded normal human Hodgkin's lymphoma* performed on a Leica BOND^{TM} 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 20mins. The section was then incubated with ab2796, 1ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. 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.

** Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre*



Western blot - Anti-NFAT2 antibody [7A6] (ab2796)

NFAT2 Western blot staining using mouse Anti-NFAT2 antibody

False colour image of Western blot: Anti-NFAT2 antibody [7A6] staining at 5 ug/ml, shown in green; Rabbit Anti-GAPDH antibody [EPR16891] (ab181602) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab2796 was shown to bind specifically to NFAT2. A band was observed at 75/80/90 kDa in wild-type HAP1 cell lysates with no signal observed at this size in NFATC1 knockout cell line. To generate this image, wild-type and NFATC1 knockout HAP1 cell lysates were analysed. 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-Mouse IgG H&L (IRDye® 800CW) preabsorbed (ab216772) and Goat anti-Rabbit IgG H&L (IRDye® 680RD) preabsorbed (ab216777) at 1/20000 dilution.
All lanes:
Western blot - Anti-NFAT2 antibody [7A6] (ab2796) at 5 µg/mL

Lane 1:
HeLa cell lysate at 20 µg

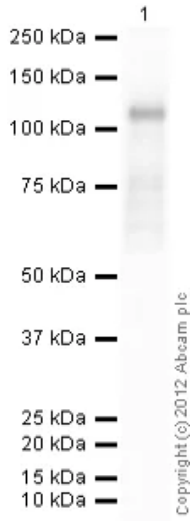
Lane 2:
Wild-type HAP1 cell lysate at 20 µg

Lane 3:
NFATC1 knockout HAP1 cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 101 kDa

Observed band size: 75 kDa, 80 kDa, 90 kDa



Western blot - Anti-NFAT2 antibody [7A6] (ab2796)

NFAT2 Western blot staining using mouse Anti-NFAT2 antibody

All lanes:
Western blot - Anti-NFAT2 antibody [7A6] (ab2796) at 1/2000 dilution

All lanes:
Western blot - Recombinant Human NFAT2 protein (GST tag N-Terminus) (ab64307) at 0.1 µg

Secondary

All lanes:
Western blot - Goat Anti-Mouse IgG H&L (HRP) preadsorbed (ab97040) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 101 kDa

Exposure time: 10s

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