abcam

Product datasheet

Anti-TRF1 antibody [3H11] ab14397

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Overview

Product name	Anti-TRF1 antibody [3H11]
Description	Mouse monoclonal [3H11] to TRF1
Host species	Mouse
Tested applications	**Suitable for:** Flow Cyt, WB, ICC/IF
Species reactivity	**Reacts with:** Human
Immunogen	Human TRF1 protein.
Positive control	HeLa cell nuclear lysate
General notes	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

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: 0.02% Sodium azide Constituent: 99.98% PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	3H11
Myeloma	Sp2/0-Ag14
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab14397 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
Flow Cyt		Use at an assay dependent concentration.
WB	★☆☆☆☆ (1)	1/100 - 1/200. Predicted molecular weight: 50 kDa.
ICC/IF		Use a concentration of 1 µg/ml.

Target

Function Binds the telomeric double-stranded TTAGGG repeat and negatively regulates telomere length. Involved in the regulation of the mitotic spindle. Component of the shelterin complex (telosome) that is involved in the regulation of telomere length and protection. Shelterin associates with arrays of double-stranded TTAGGG repeats added by telomerase and protects chromosome ends; without its protective activity, telomeres are no longer hidden from the DNA damage surveillance and chromosome ends are inappropriately processed by DNA repair pathways.

Tissue specificity Highly expressed and ubiquitous. Isoform Pin2 predominates.

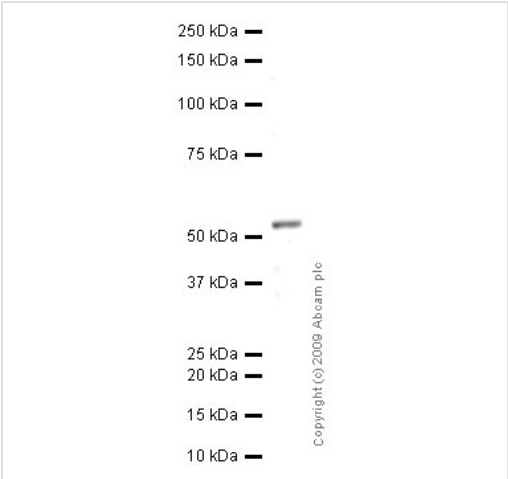
Sequence similarities Contains 1 HTH myb-type DNA-binding domain.

Domain The acidic N-terminal domain binds to the ankyrin repeats of TNKS1 and TNKS2. The C-terminal domain binds microtubules.
The TRFH dimerization region mediates the interaction with TINF2.

Post-translational modifications Phosphorylated preferentially on Ser-219 in an ATM-dependent manner in response to ionizing DNA damage.
ADP-ribosylation by TNKS1 or TNKS2 diminishes its ability to bind to telomeric DNA.
Ubiquitinated by RLIM/RNF12, leading to its degradation by the proteasome. Ubiquitinated by a SCF (SKP1-CUL1-F-box protein) ubiquitin-protein ligase complex, leading to its degradation by the proteasome.

Cellular localization Nucleus. Cytoplasm > cytoskeleton > spindle. Chromosome > telomere. Colocalizes with telomeric DNA in interphase and metaphase cells and is located at chromosome ends during metaphase. Associates with the mitotic spindle.

Images



Western blot - Anti-TRF1 antibody [3H11] (ab14397)

Anti-TRF1 antibody [3H11] (ab14397) at 1/200 dilution + HEK293 (Human embryonic kidney cell line) Whole Cell Lysate at 10 µg

Secondary
Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Predicted band size: 50 kDa
Observed band size: 55 kDa

Immunocytochemistry/ Immunofluorescence - Anti-TRF1 antibody [3H11] (ab14397)

ICC/IF image of ab14397 stained HepG2 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab14397, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

Flow Cytometry - Anti-TRF1 antibody [3H11] (ab14397)

Overlay histogram showing HeLa cells stained with ab14397 (red line). The cells were fixed with 80% methanol (5 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 (ab14397, 1µg/1x10^6 cells) for 30 min at 22ºC. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (**ab96879**) at 1/500 dilution for 30 min at 22ºC. 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.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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