abcam

Product datasheet

Anti-TDP43 antibody [3H8] ab104223

KO VALIDATED

13 References 4 Images

Overview

Product name	Anti-TDP43 antibody [3H8]
Description	Mouse monoclonal [3H8] to TDP43
Host species	Mouse
Tested applications	**Suitable for:** WB, ICC/IF, Flow Cyt
Species reactivity	**Reacts with:** Mouse, Rat, Human **Predicted to work with:** a wide range of other species
Immunogen	Recombinant full length protein corresponding to Human TDP43.
Positive control	Mouse brain tissue lysate, rat brain tissue. ICC/IF: HAP1-TARDBP cells
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: 0.03% Sodium azide Constituents: 49.9% PBS, 50% Glycerol (glycerin, glycerine)
Purity	Affinity purified
Clonality	Monoclonal
Clone number	3H8
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab104223 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		1/5000. Predicted molecular weight: 45 kDa.
ICC/IF		1/500.
Flow Cyt		1/100. **ab170190** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target

Function DNA and RNA-binding protein which regulates transcription and splicing. Involved in the regulation of CFTR splicing. It promotes CFTR exon 9 skipping by binding to the UG repeated motifs in the polymorphic region near the 3'-splice site of this exon. The resulting aberrant splicing is associated with pathological features typical of cystic fibrosis. May also be involved in microRNA biogenesis, apoptosis and cell division. Can repress HIV-1 transcription by binding to the HIV-1 long terminal repeat. Stabilizes the low molecular weight neurofilament (NFL) mRNA through a direct interaction with the 3' UTR.

Tissue specificity Ubiquitously expressed. In particular, expression is high in pancreas, placenta, lung, genital tract and spleen.

Involvement in disease Defects in TARDBP are the cause of amyotrophic lateral sclerosis type 10 (ALS10) [MIM:612069]. ALS is a neurodegenerative disorder affecting upper and lower motor neurons and resulting in fatal paralysis. Sensory abnormalities are absent. Death usually occurs within 2 to 5 years. The etiology of ALS is likely to be multifactorial, involving both genetic and environmental factors. The disease is inherited in 5-10% of the cases.

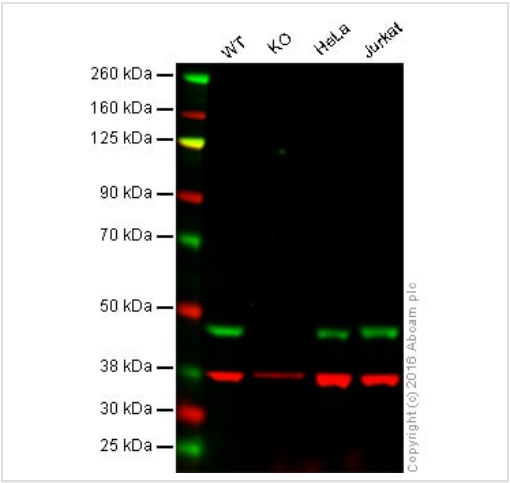
Sequence similarities Contains 2 RRM (RNA recognition motif) domains.

Domain The RRM domains can bind to both DNA and RNA.

Post-translational modifications Hyperphosphorylated in hippocampus, neocortex, and spinal cord from individuals affected with ALS and FTLDU.
Ubiquitinated in hippocampus, neocortex, and spinal cord from individuals affected with ALS and FTLDU.
Cleaved to generate C-terminal fragments in hippocampus, neocortex, and spinal cord from individuals affected with ALS and FTLDU.

Cellular localization Nucleus. In patients with frontotemporal lobar degeneration and amyotrophic lateral sclerosis, it is absent from the nucleus of affected neurons but it is the primary component of cytoplasmic ubiquitin-positive inclusion bodies.

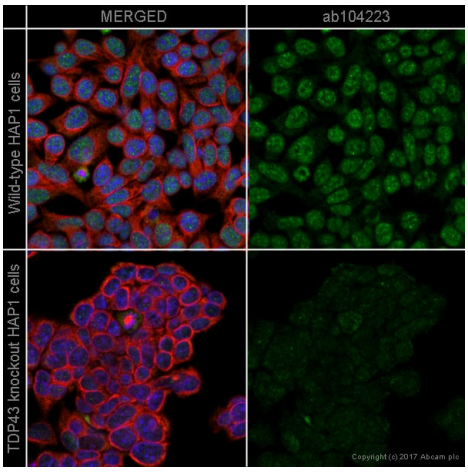
Images



Western blot - Anti-TDP43 antibody [3H8] (ab104223)

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: TDP43 knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: Jurkat cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab104223 observed at 48 kDa. Red - loading control, **ab181602**, observed at 37 kDa.

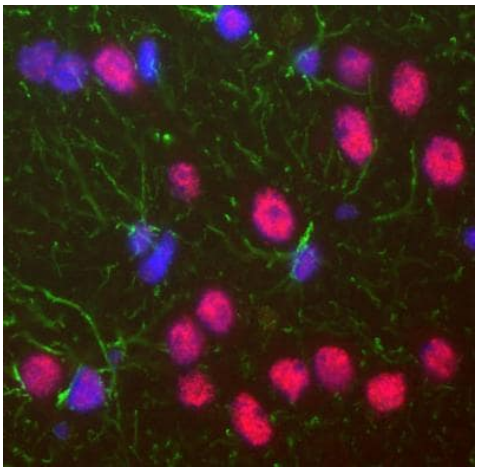
ab104223 was shown to specifically react with TDP43 when TDP43 knockout samples were used. Wild-type and TDP43 knockout samples were subjected to SDS-PAGE. Ab104223 and **ab181602** (loading control to GAPDH) were diluted at 1/5000 and 1/10,000 dilution respectively and incubated overnight at 4C. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (**ab216772**) and Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (**ab216777**) secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.



Immunocytochemistry/ Immunofluorescence - Anti-TDP43 antibody [3H8] (ab104223)

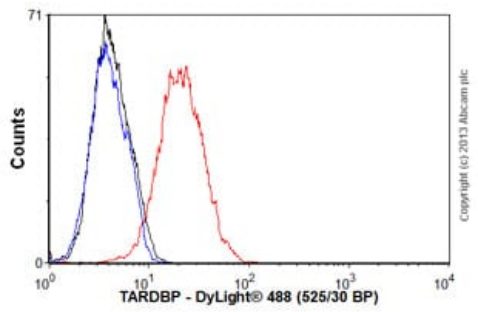
ab104223 staining TDP43 in wild-type HAP1 cells (top panel) and TARDBP knockout HAP1 cells (bottom panel). The cells were fixed with 100% methanol (5min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab104223 at 1/500 dilution and **ab202272** at 1/250 dilution (shown in pseudocolour red) overnight at +4°C, followed by a further incubation at room temperature for 1h with a goat secondary antibody to Mouse IgG (Alexa Fluor® 488) (**ab150117**) at 2 µg/ml (shown in green). Nuclear DNA was labelled in blue with DAPI.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunocytochemistry/ Immunofluorescence - Anti-TDP43 antibody [3H8] (ab104223)

ab104223 at 1/1000 dilution, staining TARDBP in rat brain tissue (red). Chicken antibody to GFAP CPCA-GFAP (green) shows the processes of astrocytic glial cells. Nuclei of all cells are revealed with DAPI DNA stain (blue).



Flow Cytometry - Anti-TDP43 antibody [3H8] (ab104223)

Overlay histogram showing JEG3 cells stained with ab104223 (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 (ab104223, 1/100 dilution) 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**, 1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in JEG3 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors