

# Anti-Tubulin antibody [4D1] - Loading Control ab56676

★★★★★ [5 Abreviews](#) [41 References](#) [4 Images](#)

### Overview

<b>Product name</b>	Anti-Tubulin antibody [4D1] - Loading Control
<b>Description</b>	Mouse monoclonal [4D1] to Tubulin - Loading Control
<b>Host species</b>	Mouse
<b>Tested applications</b>	<b>Suitable for:</b> WB, IHC-P, Flow Cyt
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Recombinant full length protein corresponding to Human Tubulin aa 1-451. Database link: <a href="#">P68363</a>
<b>General notes</b>	<p>This product was changed from ascites to tissue culture supernatant on 15 May 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.</p> <p>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.</p> <p>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&amp;As</p>

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
<b>Storage buffer</b>	pH: 7.4 Constituent: PBS
<b>Purity</b>	Tissue culture supernatant
<b>Purification notes</b>	Purified from TCS.
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	4D1
<b>Isotype</b>	IgG2b

## Light chain type

kappa

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab56676 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 at an assay dependent concentration.
IHC-P	★★★★★ (1)	Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration. <b>ab170192</b> - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

## Target

### Function

Tubulin is the major constituent of microtubules. It binds two moles of GTP, one at an exchangeable site on the beta chain and one at a non-exchangeable site on the alpha-chain.

### Sequence similarities

Belongs to the tubulin family.

### Post-translational modifications

Undergoes a tyrosination/detyrosination cycle, the cyclic removal and re-addition of a C-terminal tyrosine residue by the enzymes tubulin tyrosine carboxypeptidase (TTCP) and tubulin tyrosine ligase (TTL), respectively.

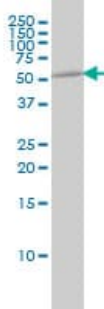
Some glutamate residues at the C-terminus are polyglutamylated. This modification occurs exclusively on glutamate residues and results in polyglutamate chains on the gamma-carboxyl group. Also monoglycylated but not polyglycylated due to the absence of functional TTL10 in human. Monoglycylation is mainly limited to tubulin incorporated into axonemes (cilia and flagella) whereas glutamylation is prevalent in neuronal cells, centrioles, axonemes, and the mitotic spindle. Both modifications can coexist on the same protein on adjacent residues, and lowering glycylation levels increases polyglutamylation, and reciprocally. The precise function of such modifications is still unclear but they regulate the assembly and dynamics of axonemal microtubules.

Acetylation of alpha-tubulins at Lys-40 stabilizes microtubules and affects affinity and processivity of microtubule motors. This modification has a role in multiple cellular functions, ranging from cell motility, cell cycle progression or cell differentiation to intracellular trafficking and signaling.

### Cellular localization

Cytoplasm > cytoskeleton.

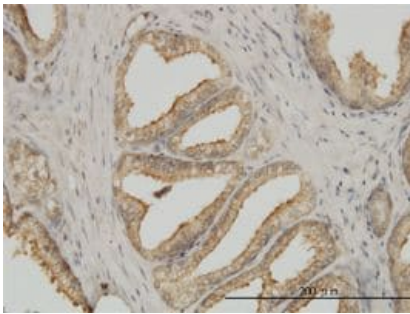
## Images



Western blot - Anti-Tubulin antibody [4D1] - Loading Control (ab56676)

Tubulin antibody (ab56676) at 1ug/lane + A-431 cell lysate at 25ug/lane.

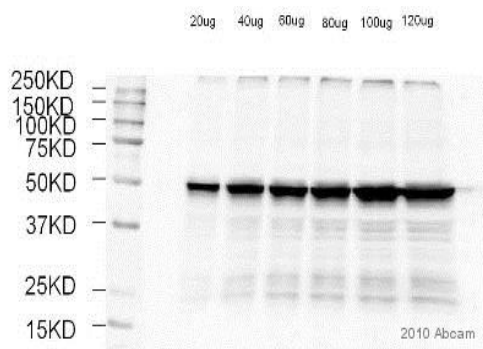
This image was generated using the ascites version of the product.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tubulin antibody [4D1] - Loading Control (ab56676)

Tubulin antibody (ab56676) used in immunohistochemistry at 3ug/ml on formalin fixed and paraffin embedded human prostate.

This image was generated using the ascites version of the product.



Western blot - Anti-Tubulin antibody [4D1] - Loading Control (ab56676)

This image is courtesy of an Abreview submitted by Xun Ai

**All lanes :** Anti-Tubulin antibody [4D1] - Loading Control (ab56676) at 1 µg/ml (in TPBS for 18 hours at 4°C)

**Lane 1 :** Whole tissue lysate of rabbit heart at 20 µg

**Lane 2 :** Whole tissue lysate of rabbit heart at 40 µg

**Lane 3 :** Whole tissue lysate of rabbit heart at 60 µg

**Lane 4 :** Whole tissue lysate of rabbit heart at 80 µg

**Lane 5 :** Whole tissue lysate of rabbit heart at 100 µg

**Lane 6 :** Whole tissue lysate of rabbit heart at 120 µg

### Secondary

**All lanes :** An HRP-conjugated Donkey anti-mouse IgG polyclonal at 1/50000 dilution

Developed using the ECL technique.

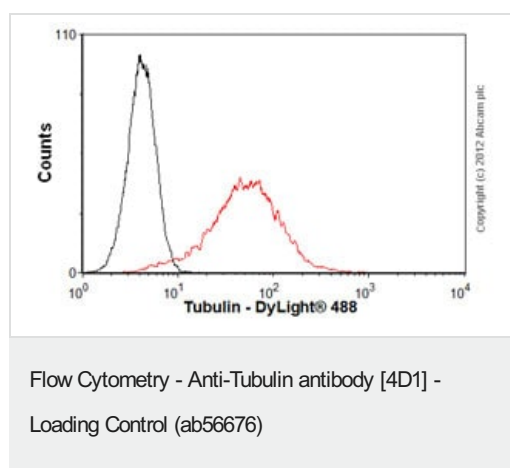
Performed under reducing conditions.

**Observed band size:** 47 kDa

**Exposure time:** 1 second

**Blocking Step :** 5% BSA for 2 hours at 23°C

This image was generated using the ascites version of the product.



Overlay histogram showing HeLa cells stained with ab56676 (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 (ab56676, 2µg/1x10<sup>6</sup> 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 IgG2b [PLPV219] ([ab91366](#), 2µg/1x10<sup>6</sup> cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

This image was generated using the ascites version of the product.

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

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