

Product datasheet

Anti-GFAP antibody [2A5] ab4648

★★★★☆ [15 Abreviews](#) [69 References](#) [8 Images](#)

Overview

Product name	Anti-GFAP antibody [2A5]
Description	Mouse monoclonal [2A5] to GFAP
Host species	Mouse
Specificity	This clone gives a much stronger signal in pig, and human samples than in rodents. For rodent (mouse, rat, etc) samples use ab68428 .
Tested applications	Suitable for: IHC-FrFI, WB, IHC-P, ICC/IF
Species reactivity	Reacts with: Mouse, Rat, Human, Pig
Immunogen	Full length native protein (purified) corresponding to Pig GFAP. A preparation of purified pig spinal cord GFAP.
Positive control	IHC-P: Human brain tissue, human cerebellum tissue. IHC-FreeFloat: Rat cerebellum tissue: WB: Pig brain tissue lysate; Rat spinal cord tissue lysate; Mouse spinal cord tissue lysate. ICC: Rat neuron/glia cells.
General notes	<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&As</p>

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: 0.065% Sodium azide Constituent: Tissue culture supernatant
Purity	Concentrated Tissue Culture Supernatant Tissue culture supernatant
Purification notes	Antibody is supplied as Integra CL-350 flask material, which is concentrated tissue culture

	supernatant.
Clonality	Monoclonal
Clone number	2A5
Isotype	IgG1
Light chain type	kappa

Applications

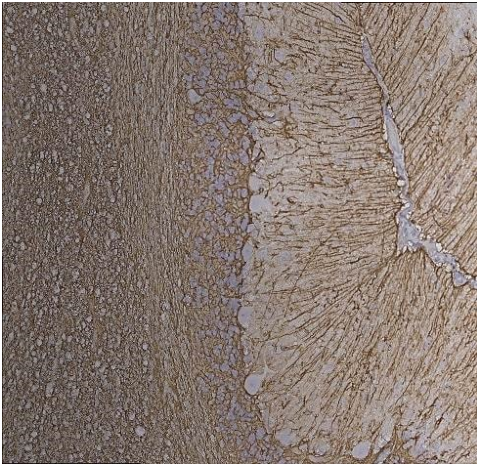
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab4648 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-FrFI		1/500.
WB	★★★★★ (1)	1/2000. Predicted molecular weight: 49 kDa.
IHC-P	★★★★★ (3)	1/500.
ICC/IF	★★★★☆ (5)	1/10 - 1/50.

Target

Function	GFAP, a class-III intermediate filament, is a cell-specific marker that, during the development of the central nervous system, distinguishes astrocytes from other glial cells.
Tissue specificity	Expressed in cells lacking fibronectin.
Involvement in disease	Defects in GFAP are a cause of Alexander disease (ALEXD) [MIM:203450]. Alexander disease is a rare disorder of the central nervous system. It is a progressive leukoencephalopathy whose hallmark is the widespread accumulation of Rosenthal fibers which are cytoplasmic inclusions in astrocytes. The most common form affects infants and young children, and is characterized by progressive failure of central myelination, usually leading to death usually within the first decade. Infants with Alexander disease develop a leukoencephalopathy with macrocephaly, seizures, and psychomotor retardation. Patients with juvenile or adult forms typically experience ataxia, bulbar signs and spasticity, and a more slowly progressive course.
Sequence similarities	Belongs to the intermediate filament family.
Post-translational modifications	Phosphorylated by PKN1.
Cellular localization	Cytoplasm. Associated with intermediate filaments.

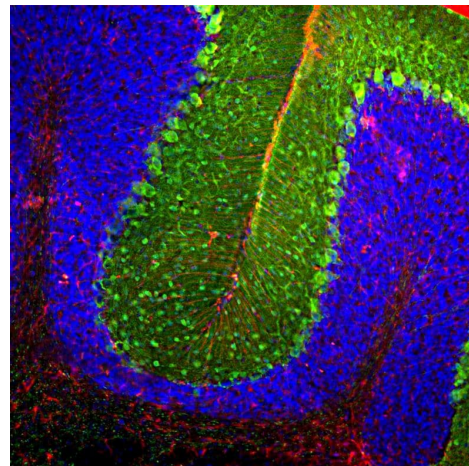
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GFAP antibody [2A5] (ab4648)

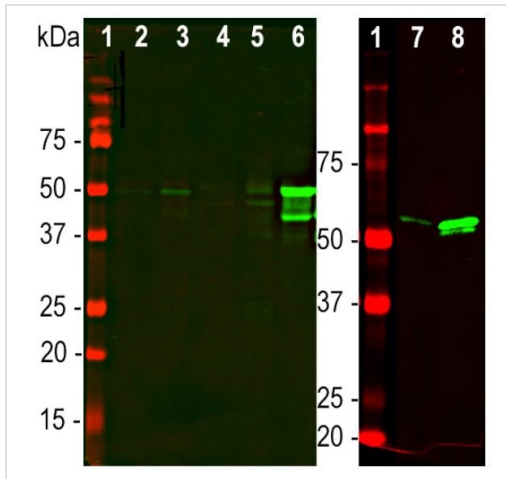
Immunohistochemistry analysis of paraffin-embedded human cerebellum tissue sections labelling GFAP with ab4648 at 1/500 dilution (1 mg/mL). Sections were stained with ab4648 using the HRP/DAB staining. Sections were counterstained with hematoxylin/eosin. Antigen retrieval was heat mediated using Antigen retrieval buffer (100X citrate buffer) (pH 6.0) ([ab93678](#)) for 15 minutes.

To the right is a region of cerebellar molecular layer containing the prominent cytoskeletal fibers of Bergmann glia which are strongly positive for GFAP. The middle shows a region of the granular layer and to the left is white matter, both of which contain GFAP positive astrocytes. The immunostaining was performed with the Vector ImmPress rat adsorbed horse anti-mouse IgG detection kit.



Immunohistochemistry - Free Floating - Anti-GFAP antibody [2A5] (ab4648)

Immunofluorescence analysis of rat cerebellum tissue labeling GFAP with ab4648 at 1/500 dilution (Red), Costained with parvalbumin antibody at 1/2,000 dilution (Green). The blue is DAPI staining of nuclear DNA. Following transcardial perfusion of rat with 4% paraformaldehyde, brain was post fixed for 24 hours, and free-floating 45µM sections were stained with above antibodies. ab4648 stains the processes of Bergmann glia and astrocytes. The Pvalb antibody labels perikarya and dendrites of Purkinje cells and interneurons in the molecular layer of the cerebellum. The staining on rodent tissues is specific but not as robust as on human material.



Western blot - Anti-GFAP antibody [2A5] (ab4648)

Lanes 2-8 : Anti-GFAP antibody [2A5] (ab4648) at 1/2000 dilution

Lane 1 : MW markers

Lane 2 : Rat brain tissue lysate

Lane 3 : Rat spinal cord tissue lysate

Lane 4 : Mouse brain tissue lysate

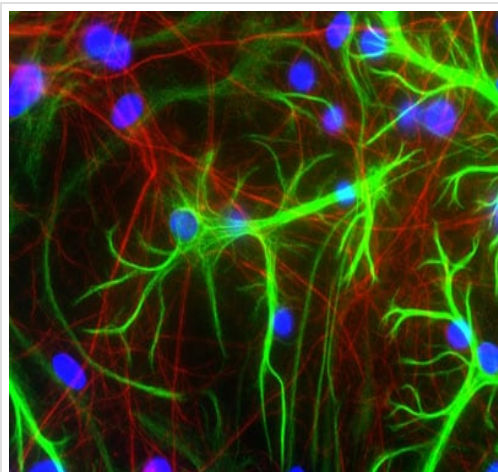
Lane 5 : Mouse spinal cord tissue lysate

Lane 6 : Pig brain tissue lysate

Lane 7 : Recombinant rat GFAP protein

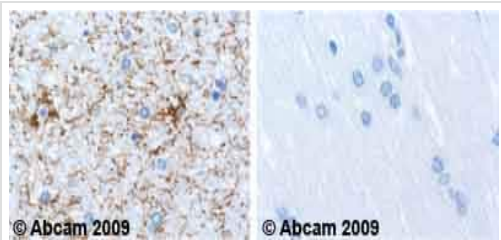
Lane 8 : Recombinant human GFAP protein

Predicted band size: 49 kDa



Immunocytochemistry/ Immunofluorescence - Anti-GFAP antibody [2A5] (ab4648)

Rat neuron/glia cultures stained with mouse monoclonal to GFAP ab 4648 (red).

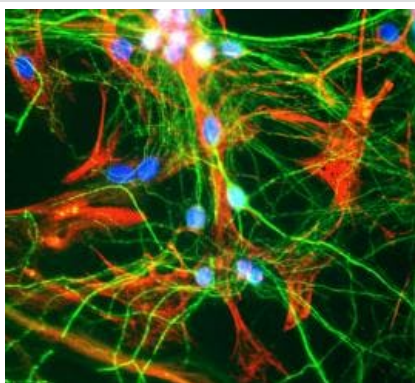


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GFAP antibody [2A5] (ab4648)

Ab4648 staining human substantia nigra. Staining is localised to the cytoplasm.

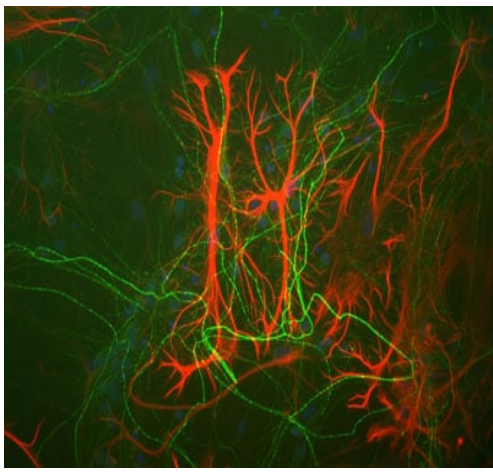
Left panel: with primary antibody diluted 1:4000. Right panel: isotype control.

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 citrate pH 6.0 in a DAKO PT Link. Slides were peroxidase blocked in 3% H₂O₂ 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 Haematoxylin 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.



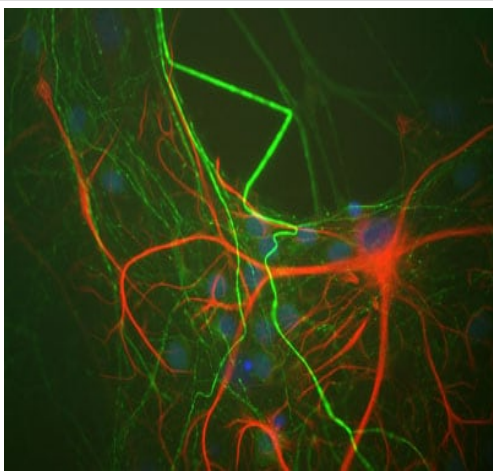
Immunocytochemistry/ Immunofluorescence - Anti-GFAP antibody [2A5] (ab4648)

Rat cortical neurons and glia in mixed tissue culture stained with Chicken polyclonal to MAP2 - [ab5392](#) (green) at 1/30000 and Mouse monoclonal to GFAP - ab4648 (red) at 1/100. Nuclei of all cells are stained with Hoechst dye (blue). Picture taken with a Zeiss 20X objective and documented with a Digital SPOT camera.



Rat neuron/glia cultures stained with mouse monoclonal to GFAP ab4648 (red).

Immunocytochemistry/ Immunofluorescence - Anti-GFAP antibody [2A5] (ab4648)



Rat neuron/glia cultures stained with mouse monoclonal to GFAP ab4648 (green).

Immunocytochemistry/ Immunofluorescence - Anti-GFAP antibody [2A5] (ab4648)

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