

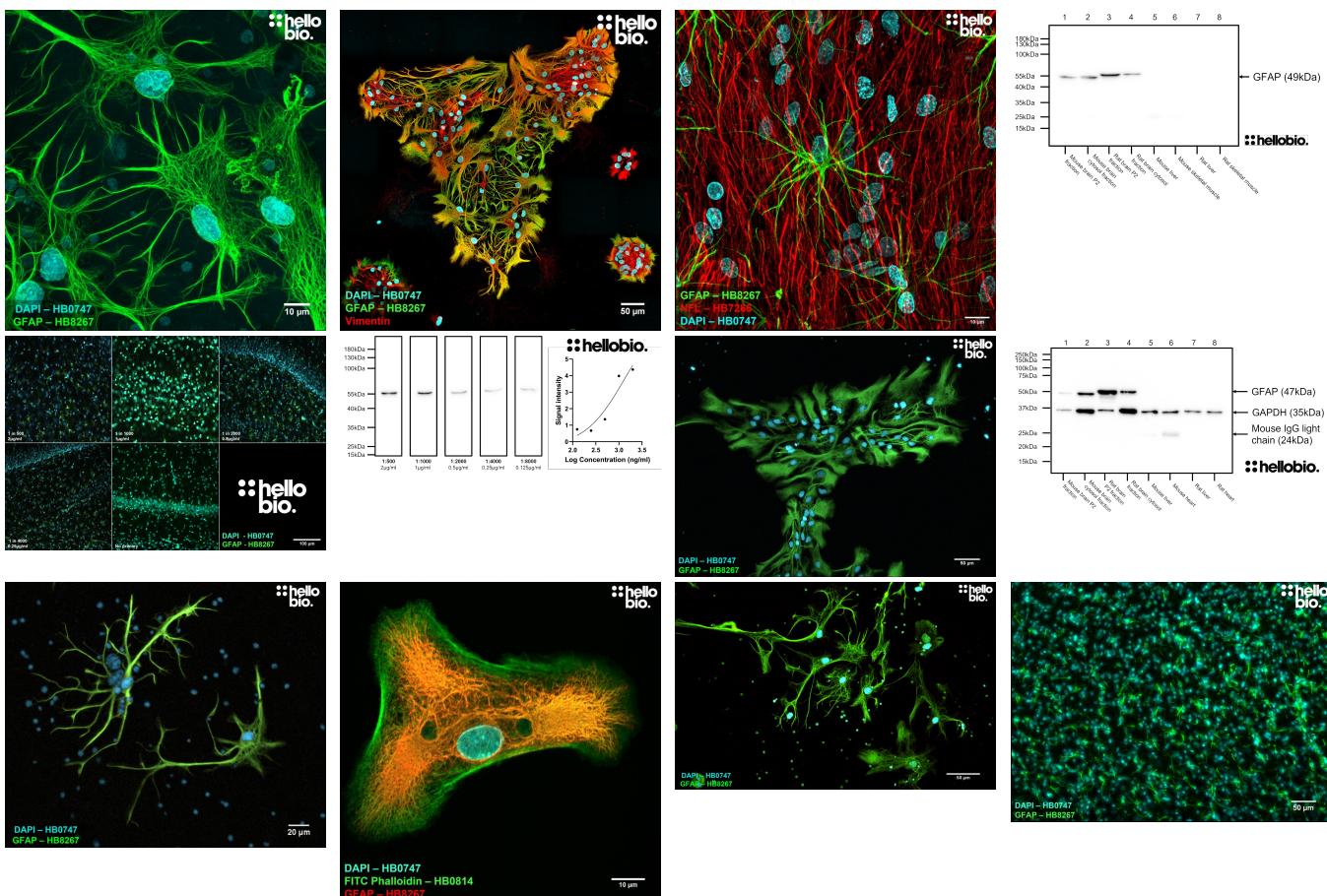
## DATASHEET

Anti-GFAP antibody ValidAb™

### Product overview

Name	Anti-GFAP antibody ValidAb™
Cat No	HB8267
Host	Mouse
Clonality	Monoclonal
Target	GFAP
Description	Antibody to GFAP - cytoskeletal protein used as an astrocyte marker. Part of the ValidAb™ range of highly validated, data-rich antibodies.

### Validation data



### Product information

Immunogen	GFAP purified from porcine spinal cord
Clone number	GA-5
Isotype	IgG1
Purification	Protein A affinity chromatography

<b>Immunogen</b>	GFAP purified from porcine spinal cord
<b>Concentration</b>	1mg/ml
<b>Formulation</b>	Lyophilised. When reconstituted contains PBS with 15mM sodium azide and 1% recombinant albumin
<b>Predicted species reactivity</b>	Human, Mouse, Rat, Pig

## Tested applications

<b>Applications</b>	ICC, WB, IHC(IF)
<b>Western blot optimal concentration</b>	1µg/ml (1:1000) as measured in rat brain cytosol
<b>IHC(IF) optimal concentration</b>	1µg/ml (1:1000) as measured in free-floating paraformaldehyde fixed hippocampal sections
<b>ICC optimal concentration</b>	1µg/ml (1:1000) as measured in PFA fixed mixed neuronal cultures.
<b>Positive control</b>	GFAP is highly expressed in neural tissues containing astrocytes. It is not widely expressed in cell lines, however it is in specific lines such as U-87 MG.
<b>Negative control</b>	Most non-neural tissues. Please note that GFAP expression has been reported in a subset of pancreatic and hepatic cells in rats and mice kidney cells. It is generally poorly expressed in common cell lines such as HeLa or HEK293.
<b>Open data link</b>	Please follow this <a href="#">link to OSF</a>

## Target information

<b>Other names</b>	glial fibrillary acidic protein, ALXDRD
<b>UniProt ID</b>	P14136
<b>Gene name</b>	GFAP
<b>NCBI full gene name</b>	glial fibrillary acidic protein
<b>Entrez gene ID</b>	<a href="#">2670</a>
<b>Amino acids</b>	432 (49.9kDa)
<b>Isoforms</b>	GFAP has three confirmed and 21 potential isoforms. Isoform 1 (GFAP alpha): canonical, 49.9kDa; Isoform 2 (GFAP epsilon): amino acid changes between positions 391 and 432, 49.5kDa; Isoform 3 (GFAP kappa): amino acid changes between positions 391 and 432, 50.3kDa
<b>Expression</b>	GFAP is primarily expressed within astrocytes of the central nervous system alongside also expressing in non-myelinating Schwann cells of the peripheral nervous system and satellite cells of the peripheral ganglia. GFAP expression has also been reported in Leydig cells of the testis alongside stellate cells from the pancreas and liver in rats.
<b>Subcellular expression</b>	GFAP is a key cytoskeletal component therefore is widely expressed as bundles of GFAP positive fibres.
<b>Target function</b>	GFAP is a class III intermediate filament protein with an important role in many processes beyond being a structural cytoskeletal component. GFAP is involved in mitosis of astrocytes, mediating interactions between astrocytes and neurones and repair after CNS injury.
<b>Processing</b>	Following translation no processing is required for GFAP to reach its active conformation.
<b>Post translational modifications</b>	GFAP is subjected to numerous post-translational modifications including 9 phosphorylation sites which are the target of AURKB and ROCK1 alongside 5 separate citrullination sites.

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<b>Other names</b>	glial fibrillary acidic protein, ALXDRD
<b>Homology (compared to human)</b>	Rat, mouse and human GFAP proteins have a 90% similarity score in a direct BLAST comparison.
<b>Similar proteins</b>	Other type III intermediate filament proteins have homology with GFAP including Vimentin (58%), Desmin (59%) and Peripherin (56%) when assessed using BLAST.

## Storage & Handling

<b>Storage instructions</b>	-20°C then use reconstitution advice
<b>Reconstitution advice</b>	Upon receipt store at either -20°C or -80°C.
For 100µg packs either:	
<ul style="list-style-type: none"><li>• Reconstitute with 100µl dH<sub>2</sub>O and store at 4°C</li><li>• Reconstitute with 50µl dH<sub>2</sub>O and 50µl glycerol then store at -20°C</li><li>• Reconstitute with 100µl dH<sub>2</sub>O, aliquot then snap freeze and store at -80°C</li></ul>	
For 25µg packs either:	
<ul style="list-style-type: none"><li>• Reconstitute with 25µl dH<sub>2</sub>O and store at 4°C</li><li>• Reconstitute with 12.5µl dH<sub>2</sub>O and 12.5µl glycerol then store at -20°C</li><li>• Reconstitute with 25µl dH<sub>2</sub>O, aliquot then snap freeze and store at -80°C</li></ul>	
For more information <a href="#">read our guide</a> on the best care for your product. Take care when opening as the precipitate is extremely light and can easily be lost if disturbed. When reconstituting make sure that the antibody is thoroughly dissolved by pipetting up and down before giving the antibody a brief spin at 10,000g to make sure that all material is recovered and at the bottom of the tube.	
<b>Shipping conditions</b>	Shipped at ambient temperature in a lyophilised format
<b>Important</b>	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

## References

### Glial fibrillary acidic protein: GFAP-thirty-one years (1969-2000)

Eng LF, Ghirnikar RS and Lee YL (2000) *Neurochem Res* 25(9-10)  
**PubMedID** [11059815](#)

### GFAP-expressing progenitors are the principal source of constitutive neurogenesis in adult mouse forebrain

Garcia A et al (2004) *Nature Neuroscience* 7(11)  
**PubMedID** [15494728](#)

### GFAP and astrogliosis

Eng LF and Ghirnikar RS (1994) *Brain Pathol* 4(3)  
**PubMedID** [7952264](#)

### Cell-type-specific markers for distinguishing and studying neurons and the major classes of glial cells in culture

Raff MC et al (1979) *Brain Res* 174(2)

PubMedID

385109

**Importance of GFAP isoform-specific analyses in astrocytoma**

Van Bodegraven et al (2019) *Glia* 67(8)

PubMedID

30667110

**Astrocytes: biology and pathology**

Sofroniew M and Vinters H (2010) *Acta Neuropathologica* 119(1)

PubMedID

20012068

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