

## GFAP

Cat.No. 173 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/Storage	200 µl antiserum, lyophilized. For <b>reconstitution</b> add 200 µl H <sub>2</sub> O, then aliquot and store at -20°C until use.
Applications	<b>WB:</b> 1 : 1000 (AP staining) (see remarks) <b>IP:</b> yes <b>ICC:</b> 1 : 1000 <b>IHC:</b> yes <b>IHC-P/FFPE:</b> 1 : 1000 <b>ELISA:</b> yes (see remarks)
Immunogen	Recombinant protein corresponding to AA 1 to 432 from human GFAP (UniProt Id: P14136)
Reactivity	Reacts with: human (P14136), rat (P47819), mouse (P03995), chicken, zebrafish. Other species not tested yet.
Specificity	Specific for GFAP, detects all isoforms.
Matching control	173-0P
Remarks	<b>WB:</b> The polyclonal antibodies are more sensitive compared to the monoclonals.  <b>ELISA:</b> Suitable as detector antibody for sandwich-ELISA with cat. no. 173 011 as capture antibody.

### TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Glial fibrillary acidic protein **GFAP** is a glial-specific member of the intermediate filament protein family. This group comprises celltype-specific filamentous proteins with similar structure and function as scaffold for cytoskeleton assembly and maintenance.

Frequently, neural stem cells also express GFAP. In addition many types of brain tumors, probably derived from astrocytic cells, heavily express GFAP. This protein is also found in the lens epithelium, Kupffer cells of the liver, in some cells in salivary tumors and others.

Point-mutations in the GFAP gene have been correlated to Alexander disease a fatal leukoencephalopathy that leads to the dysmyelination or demyelination of the central nervous system.

### Selected References SYSY Antibodies

- Distinct *in vivo* roles of secreted APP ectodomain variants APPs $\alpha$  and APPs $\beta$  in regulation of spine density, synaptic plasticity, and cognition.  
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- Long-term culture of astrocytes attenuates the readily releasable pool of synaptic vesicles.  
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- Identification of low molecular weight pyroglutamate A $\beta$  oligomers in Alzheimer disease: a novel tool for therapy and diagnosis.  
Wirths O, Erck C, Martens H, Harmeier A, Geumann C, Jawhar S, Kumar S, Multhaup G, Walter J, Ingelsson M, Degerman-Gunnarsson M, et al. The Journal of biological chemistry (2010) 28553: 41517-24. . **IHC-P; tested species: mouse**
- Dopamine Receptor Activation Modulates the Integrity of the Perisynaptic Extracellular Matrix at Excitatory Synapses.  
Mitlöhner J, Kaushik R, Niekisch H, Blondiaux A, Gee CE, Happel MFK, Gundelfinger E, Dityatev A, Frischknecht R, Seidenbecher C. Cells (2020) 92: . . **ICC; tested species: rat**
- Sonic hedgehog expression in the postnatal brain.  
Rivell A, Petralia RS, Wang YX, Clawson E, Moehl K, Mattson MP, Yao PJ. Biology open (2019) : . . **WB; tested species: rat**
- Glial-to-neuron transfer of miRNAs via extracellular vesicles: a new mechanism underlying inflammation-induced synaptic alterations.  
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- Wfs1- deficient rats develop primary symptoms of Wolfram syndrome: insulin-dependent diabetes, optic nerve atrophy and medullary degeneration.  
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- An electrically resistive sheet of glial cells for amplifying signals of neuronal extracellular recordings.  
Matsumura R, Yamamoto H, Niwano M, Hirano-Iwata A. Applied physics letters (2016) 1082: 023701. . **IHC**
- Large-scale analysis of viral nucleic acid spectrum in temporal lobe epilepsy biopsies.  
Esposito L, Drexler JF, Braganza O, Doberentz E, Grote A, Widman G, Drost C, Eis-Hübinger AM, Schoch S, Elger CE, Becker AJ, et al. Epilepsia (2015) 562: 234-43. . **IHC; tested species: human**
- Neprilysin deficiency alters the neuropathological and behavioral phenotype in the 5XFAD mouse model of Alzheimer's disease.  
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- Synaptotagmin-12 phosphorylation by cAMP-dependent protein kinase is essential for hippocampal mossy fiber LTP.  
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- Accelerated tau pathology with synaptic and neuronal loss in a novel triple transgenic mouse model of Alzheimer's disease.  
Saul A, Sprenger F, Bayer TA, Wirths O. Neurobiology of aging (2013) 3411: 2564-73. . **IHC-P; tested species: mouse**
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- No improvement after chronic ibuprofen treatment in the 5XFAD mouse model of Alzheimer's disease.  
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- Age-dependent kinetics of dentate gyrus neurogenesis in the absence of cyclin D2.  
Ansorg A, Witte OW, Urbach A. BMC neuroscience (2012) 13: 46. . **IHC**