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GFAP

Cat.No. 173 006; Polyclonal chicken antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 μg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For reconstitution add 50 μl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	WB: not recommended (see remarks) IP: not tested yet ICC: 1:500 up to 1:1000 IHC: 1:500 IHC-P: 1:200 up to 1:500 DNA-PAINT: external data (see remarks) iDISCO: external data (see remarks)
Immunogen	full-length recombinant human GFAP (UniProt Id: P14136)
Reactivity	Reacts with: human (P14136), rat (P47819), mouse (P03995). Other species not tested yet.
Specificity	Specific for GFAP, detects all isoforms. K.O. validated
Matching control	173-0P
Remarks	WB : Cat. nos. <u>173 009</u> is recommended. DNA-PAINT : This antibody has been successfully applied and published for this method by customers (see application-specific references). iDISCO : This antibody has been successfully applied and published for this method by customers (see application-specific references).

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

Background

Glial fibrillary acidic protein GFAP is a glial-specific member of the intermediate filament protein family. This group comprises cell type-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.

For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

Selected References for 173 006

Temporal characterisation and electrophysiological implications of TBI-induced serine/threonine kinase activity in mouse cortex.

Celine G, Thomas M

Cellular and molecular life sciences: CMLS (2025) 821: 102.. WB, IHC; tested species: mouse

Targeting the glycine-rich domain of TDP-43 with antibodies prevents its aggregation in vitro and reduces neurofilament levels in vivo.

Riemenschneider H, Simonetti F, Sheth U, Katona E, Roth S, Hutten S, Farny D, Michaelsen M, Nuscher B, Schmidt MK, Flatley A, et al.

Acta neuropathologica communications (2023) 111: 112. . IHC-P; tested species: mouse

Fast DNA-PAINT imaging using a deep neural network.

Narayanasamy KK, Rahm JV, Tourani S, Heilemann M

Nature communications (2022) 131: 5047. . DNA_PAINT; tested species: rat

A neurovascular-unit-on-a-chip for the evaluation of the restorative potential of stem cell therapies for ischaemic stroke. Lyu Z, Park J, Kim KM, Jin HJ, Wu H, Rajadas J, Kim DH, Steinberg GK, Lee W

Nature biomedical engineering (2021) 58: 847-863. . ICC; tested species: human

Correction of dysregulated lipid metabolism normalizes gene expression in oligodendrocytes and prolongs lifespan in female poly-GA C9orf72 mice.

Rezaei A, Kocsis-Jutka V, Gunes ZI, Zeng Q, Kislinger G, Bauernschmitt F, Isilgan HB, Parisi LR, Kaya T, Franzenburg S, Koppenbrink J, et al.

Nature communications (2025) 161: 3442. . IHC-P; tested species: mouse

Mapping GABA+/Glx in experimental temporal lobe epilepsy using edited-MRSI at 9.4T.

Plaindoux A, Le Fur Y, Courivaud C, Beets C, Samalens L, Valette J, Lemasson B, Barbier EL, Stupar V, Fauvelle F

Neurolmage (2025) 315: 121274. . IHC; tested species: mouse

Microglia dysfunction, neurovascular inflammation and focal neuropathologies are linked to IL-1- and IL-6-related systemic inflammation in COVID-19.

Fekete R, Simats A, Bíró E, Pósfai B, Cserép C, Schwarcz AD, Szabadits E, Környei Z, Tóth K, Fichó E, Szalma J, et al. Nature neuroscience (2025) 283: 558-576. . IHC-P; tested species: human

Cell Type-Specific Effects of Fusarium Mycotoxins on Primary Neurons and Astroglial Cells.

Szentgyörgyi V, Tagscherer-Micska B, Rátkai A, Schlett K, Bencsik N, Tárnok K

Toxins (2025) 178: . . ICC; tested species: mouse

Access the online factsheet including applicable protocols at https://sysy.com/product/173006 or scan the QR-code.



FAQ - How should I store my antibody?

Shipping Conditions

 All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freezedried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- Unlabeled and biotin-labeled antibodies and control proteins should be stored at 4°C before reconstitution. They must not be stored in the freezer when still lyophilized!
 Temperatures below zero may cause loss of performance.
- Fluorescence-labeled antibodies should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle
 between freezing and thawing (to reduce frost-build-up), which is exactly what should be
 avoided. For the same reason, antibody vials should be placed in an area of the freezer that
 has minimal temperature fluctuations, for instance towards the back rather than on a door
 shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl)
 and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock
 concentration is affected by evaporation and adsorption of the antibody to the surface of the
 storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of
 activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

• Store at -20°C to -80°C.

Monoclonal Antibodies

- Ascites and hybridoma supernatant should be stored at -20°C up to -80°C. Prolonged storage at 4°C is not recommended! Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- Crude antisera: With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- Affinity purified antibodies: Less robust than antisera. Storage at -20°C up to -80°C is
 recommended. Adding a carrier protein like BSA will increase long term stability. Most of our
 antibodies already contain carrier proteins. Please refer to the data-sheet for detailed
 information.

Fluorescence-labeled Antibodies

• Store as a liquid with 1:1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add
 the amount of deionized water given in the respective datasheet. If higher volumes are
 preferred, add water as mentioned above and then the desired amount of PBS and a
 stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies
 already contain albumin. Take this into account when adding more carrier protein.
 For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the
 solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled
 with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1:1 (v/v) glycerol to a final
 concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in
 liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freezethaw cycles.
- Please refer to our tips and hints for subsequent storage of reconstituted antibodies and control peptides and proteins.