

## Acetylcholinesterase (AChE)

Cat.No. 425 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

### Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For <b>reconstitution</b> add 100 µl H <sub>2</sub> 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	<b>WB:</b> not tested yet <b>IP:</b> not tested yet <b>ICC:</b> not tested yet <b>IHC:</b> 1 : 500 (see remarks) <b>IHC-P (FFPE):</b> 1 : 500 up to 1 : 1000
Clone	35F8E8
Subtype	IgG2a (κ light chain)
Immunogen	Recombinant protein corresponding to AA 489 to 614 from rat AChE (UniProt Id: P37136)
Reactivity	Reacts with: mouse (P21836), rat (P37136), human (P07101). Other species not tested yet.
Specificity	Specific for AChE, may cross react to isoforms R and H.
Remarks	<b>IHC:</b> Antigen retrieval with citrate buffer pH 6 is required.

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

### Background

**Acetylcholinesterase** also known as **AChE** or **Acetylhydrolase**, hydrolyzes the neurotransmitter acetylcholine at neuromuscular junctions and cholinergic synapses in the brain and thus terminates signal transmission. The protein is also found on the membranes of erythrocytes. Acetylcholinesterase is a globular, glycosylated protein that lacks a transmembrane peptide-anchor region and occurs as several isoforms, originating from alternative splicing of the AChE mRNA.

### Selected General References

Acetylcholinesterase--new roles for an old actor.  
Soreq H et al. Nat. Rev. Neurosci. (2001) PubMed:11283752

Global loss of acetylcholinesterase activity with mitochondrial complexes inhibition and inflammation in brain of hypercholesterolemic mice.  
Paul R et al. Sci Rep (2017) PubMed:29263397

Co-localization of PRiMA with acetylcholinesterase in cholinergic neurons of rat brain: an immunocytochemical study.  
Henderson Z et al. Brain Res. (2010) PubMed:20471375

Structural roles of acetylcholinesterase variants in biology and pathology.  
Grisaru D et al. Eur. J. Biochem. (1999) PubMed:10491113

A modified histochemical technique to visualize acetylcholinesterase-containing axons.  
Hedreen JC et al. J. Histochem. Cytochem. (1985) PubMed:2578498

Access the online factsheet including applicable protocols at <https://sysy.com/product/425011> or scan the QR-code.



# FAQ - How should I store my antibody?

## Shipping Conditions

- All SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable 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. **Do not freeze lyophilized antibodies.** Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

## Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free (“no-frost”) freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at -20°C to -80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

## Product Specific Hints for Storage

### Control proteins / peptides

- Store at -20°C to -80°C

### Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C. Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C. Adding a carrier protein (e.g., BSA) enhances long-term stability. Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

### Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C. Adding a carrier protein such as BSA improves long-term stability. Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

### Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

# Avoid repeated freeze-thaw cycles for all antibodies!

## FAQ - How should I reconstitute my antibody?

### Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at -20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.