SYSY Antibodies

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P2Y12 mouse specific

Cat.No. 476 009; Recombinant chicken antibody, 50 µg recombinant IgY (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified recombinant IgY, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 50 µl H_2O to get a 1mg/ml solution in TBS. 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 **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 1000 up to 1 : 5000 **IHC-P (FFPE)**: 1 : 5000
Clone	Ch341D12
Subtype	IgY (λ light chain)
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of ms P2Y12 receptor (UniProt Id: Q9CPV9)
Reactivity	Reacts with: mouse (Q9CPV9). No signal: rat (Q9EPX4). Other species not tested yet.
Specificity	K.O. validated
Remarks	This antibody is a chimeric antibody based on the monoclonal mouse antibody SY-341D12. The constant regions of the heavy and light chains have been replaced by chicken specific sequences. The antibody can therefore be used with standard anti-chicken secondary reagents. The antibody has been expressed in mammalian cells.

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

Background

P2Y12, also referred to as P2RY12 or P2Y12R, is a G_i – coupled purinoceptor and is of particular relevance for microglia in the central nervous system (CNS) (1). The preferred agonist is ADP, the degradation product of ATP, which is released from neurons and other glial cells during physiological activity or after tissue damage. P2Y12 receptor is highly expressed in processes and somata of surveilling microglia and plays a major role in microglial chemotaxis in response to local CNS injury (2). More recently, P2Y12 receptors have been shown to be concentrated at microglia process-neuronal somata contacts (3) and to be critical for neuroprotection. To date, P2Y12 receptor is one of the most accepted microglia-specific markers used to distinguish CNS-resident microglia from CNS-associated macrophages (CAMs) and infiltrating monocytes/macrophages (4). The expression level of P2Y12 receptor is downregulated in an activated state of microglia referred to as disease-associated microglia (DAM). In the periphery, P2Y12 receptor is expressed in platelets and is a well-known biological target for anti-thrombotic drugs due to its central role in platelet activation, aggregation and blood clotting (5).

Selected General References

The Safeguarding Microglia: Central Role for P2Y12 Receptors.
Lin SS et al. Front Pharmacol (2020) PubMed:33519493

Contribution of "Genuine Microglia" to Alzheimer's Disease Pathology.
Hashioka S et al. Front Aging Neurosci (2022) PubMed:35401156

Strategies for targeting the P2Y12 receptor in the central nervous system.
Ma BB et al. Bioorg Med Chem Lett (2022) PubMed:35640763

Microglia monitor and protect neuronal function through specialized somatic purinergic junctions.
Cserép C et al. Science (2020) PubMed:31831638

The P2Y12 receptor regulates microglial activation by extracellular nucleotides.
Haynes SE et al. Nat Neurosci (2006) PubMed:17115040

Access the online factsheet including applicable protocols at https://sysy.com/product/476009 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.