SYSY Antibodies

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Pax6

Cat.No. 153 011; 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 **reconstitution** add 100 µl H_2O 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**: 1 : 1000 (AP staining) (see remarks) **IP**: not tested yet **ICC**: external data (see remarks) **IHC**: not tested yet **IHC-P (FFPE)**: 1 : 100 up to 1 : 500 (see remarks)
Clone	AD2.38
Subtype	IgG1 (λ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 422 from mouse Pax6 (UniProt Id: P63015)
Epitop	AA 4 to 130 from mouse Pax6 (UniProt Id: P63015)
Reactivity	Reacts with: human (P26367), rat (P63016), mouse (P63015), chicken. Other species not tested yet.
Specificity	K.O. validated PubMed: 10409504
Remarks	**WB**: Nuclear extracts from tissues should be used for Western blot experiments to increase the concentration of Pax 6. **ICC**: This antibody has been successfully applied and published for this method by customers (see application-specific references). It has not been validated using our standard protocols. **IHC-P (FFPE)**: Antigen retrieval with Tris-EDTA buffer pH 9 is recommended for chromogenic detection. For chromogenic detection, an optimized AGR time of 30 minutes is recommended for best results. Antigen retrieval with Tris-EDTA buffer pH 9 is recommended for fluorescent detection.

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

Background

Pax 6 (**Sey**) proteins regulate transcription and are composed of two DNA binding motives, an N-terminal paired domain (PD) and a C-terminal homeodomain (HD).
Mutations or deletions in the Pax 6 gene cause severe defects in the development of the eye and the central nervous system (CNS). The Pax 6 mRNA is alternatively spliced at position 47 and is translated into two proteins of 46 and 48 kDa. The amino acid sequence and basic regulatory mechanisms of Pax 6 are conserved from invertebrates to mammals.

Selected References for 153 011

Role of Pax6 in development of the cerebellar system.
Engelkamp D, Rashbass P, Seawright A, van Heyningen V
Development (Cambridge, England) (1999) 12616: 3585-96. . **WB, IHC; KO verified; tested species: mouse**

Lymphoblast-derived integration-free iPSC lines from a female and male Alzheimer's disease patient expressing different copy numbers of a coding CNV in the Alzheimer risk gene CR1.
Schröter F, Sleegers K, Van Cauwenberghe C, Bohndorf M, Wruck W, Van Broeckhoven C, Adjaye J
Stem cell research (2016) 173: 560-563. . **ICC**

Generation of an induced pluripotent stem cell line HHUUKDi013-A (ISRM-AATD-iPSC-3) from a pediatric patient of Alpha-I Antitrypsin Deficiency (AATD).
Loerch C, Hokamp R, Wruck W, Katzer D, Weigert A, Machui A, Graffmann N, Ganschow R, Adjaye J
Stem cell research (2025) 87: 103762. . **ICC; tested species: human**

INSIHGT: an accessible multi-scale, multi-modal 3D spatial biology platform.
Yau CN, Hung JTS, Campbell RAA, Wong TCY, Huang B, Wong BTY, Chow NKN, Zhang L, Tsoi EPL, Tan Y, Li JJX, et al.
Nature communications (2024) 151: 10888. . **IHC; tested species: mouse**

Induction of granule and Purkinje cells from primary cultured mouse cerebellar progenitors.
Zhang T, Liu T, Hassan BA
STAR protocols (2021) 23: 100760. . **ICC; tested species: mouse**

Generation of excitatory and inhibitory neurons from common progenitors via Notch signaling in the cerebellum.
Zhang T, Liu T, Mora N, Guegan J, Bertrand M, Contreras X, Hansen AH, Streicher C, Anderle M, Danda N, Tiberi L, et al.
Cell reports (2021) 3510: 109208. . **IHC; tested species: mouse**

IPSC-Derived Neuronal Cultures Carrying the Alzheimer's Disease Associated TREM2 R47H Variant Enables the Construction of an Aβ-Induced Gene Regulatory Network.
Martins S, Müller-Schiffmann A, Erichsen L, Bohndorf M, Wruck W, Sleegers K, Van Broeckhoven C, Korth C, Adjaye J
International journal of molecular sciences (2020) 2112: . . **ICC; tested species: human**

Mutations in the Heterotopia Gene Eml1/EML1 Severely Disrupt the Formation of Primary Cilia.
Uzquiano A, Cifuentes-Diaz C, Jabali A, Romero DM, Houllier A, Dingli F, Maillard C, Boland A, Deleuze JF, Loew D, Mancini GMS, et al.
Cell reports (2019) 286: 1596-1611.e10. . **ICC; tested species: mouse**

Lymphoblast-derived integration-free ISRM-CON9 iPS cell line from a 75year old female.
Martins S, Bohndorf M, Schröter F, Assar F, Wruck W, Sleegers K, Van Broeckhoven C, Adjaye J
Stem cell research (2018) 26: 76-79. . **IHC; tested species: human**

Lymphoblast-derived integration-free iPS cell line from a female 67-year-old Alzheimer's disease patient with TREM2 (R47H) missense mutation.
Schröter F, Sleegers K, Cuyvers E, Bohndorf M, Wruck W, Van Broeckhoven C, Adjaye J
Stem cell research (2016) 173: 553-555. . **ICC**

Compartment-specific transcription factors orchestrate angiogenesis gradients in the embryonic brain.
Vasudevan A, Long JE, Crandall JE, Rubenstein JL, Bhide PG
Nature neuroscience (2008) 114: 429-39. . **IHC**

Access the online factsheet including applicable protocols at https://sysy.com/product/153011 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.