SYSY Antibodies

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Ribeye B-domain

Cat.No. 192 003; Polyclonal rabbit 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_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) **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 10000 (see remarks) **IHC-P (FFPE)**: not tested yet
Immunogen	Synthetic peptide corresponding to AA 974 to 988 from rat Ribeye (UniProt Id: Q9EQH5-2)
Reactivity	Reacts with: human (P56545-2), rat (Q9EQH5), mouse (P56546-2), monkey, cow. Other species not tested yet.
Specificity	This antibody recognizes ribeye and CtBP 2 (cat. no. 193 003).
Remarks	The immunogen is identical to that of anti-CtBP 2 (cat. no. 193 003). **IHC**: For optimal results in retina tissue, follow the retina protocol. The antibody has been published in other tissues by customers (see IHC references).

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

Background

The photoreceptor ribbon synapse is a unique type of synapse specialized for the tonic release of neurotransmitter in the dark. **Ribeye** is a self-aggregating protein and is one of the major scaffolding components of the ribbon on which the neurotransmitter containing vesicles are tethered. The protein consists of a unique A-domain and a B-domain. With the exception of the first 20 amino acids the B-domain is identical to the transcriptional corepressor CtBP 2. Both proteins originate from the same gene.

Selected References for 192 003

Cytomatrix proteins CAST and ELKS regulate retinal photoreceptor development and maintenance.
Hagiwara A, Kitahara Y, Grabner CP, Vogl C, Abe M, Kitta R, Ohta K, Nakamura K, Sakimura K, Moser T, Nishi A, et al.
The Journal of cell biology (2018) : . . **WB, IHC; tested species: mouse**

Establishing synthetic ribbon-type active zones in a heterologous expression system.
Kapoor R, Do TT, Schwenzer N, Petrovic A, Dresbach T, Lehnart SE, Fernández-Busnadiego R, Moser T
eLife (2026) 13: . . **ICC; tested species: human**

Persistence of vestibular function in the absence of glutamatergic transmission from hair cells.
Mukhopadhyay M, Modgekar R, Yang-Hood A, Ohlemiller KK, Militchin V, Xiao M, Shen Z, Rensing NR, Wong M, Lee SJ, Seal RP, et al.
bioRxiv : the preprint server for biology (2025) : . . **IHC; tested species: mouse**

Charting the nanotopography of inner hair cell synapses using MINFLUX nanoscopy.
Kapoor R, Kim H, Garlick E, Lima MADRBF, Esch K, Ruhwedel T, Möbius W, Wolf F, Moser T
Science advances (2025) 1145: eady4344. . **IHC; tested species: mouse**

The rod synapse in aging wildtype and Dscaml1 mutant mice.
Clemons MR, Dimico RH, Black C, Schlussler MK, Camerino MJ, Aldinger-Gibson K, Bartle A, Reynolds N, Eisenbrandt D, Rogers A, Andrianu J, et al.
PloS one (2023) 1811: e0290257. . **IHC; tested species: mouse**

Neuronal p58IPK Protects Retinal Ganglion Cells Independently of Macrophage/Microglia Activation in Ocular Hypertension.
McLaughlin T, Wang J, Jia L, Wu F, Wang Y, Wang JJ, Mu X, Zhang SX
Cells (2023) 1212: . . **IHC; tested species: mouse**

Critical Role of the Presynaptic Protein CAST in Maintaining the Photoreceptor Ribbon Synapse Triad.
Hagiwara A, Mizutani A, Kawamura S, Abe M, Hida Y, Sakimura K, Ohtsuka T
International journal of molecular sciences (2023) 248: . . **IHC; tested species: mouse**

Essential Role of XBP1 in Maintaining Photoreceptor Synaptic Integrity in Early Diabetic Retinopathy.
McLaughlin T, Wang G, Medina A, Perkins J, Nihlawi R, Seyfried D, Hu Z, Wang JJ, Zhang SX
Investigative ophthalmology & visual science (2023) 6414: 40. . **IHC; tested species: mouse**

Overloaded Adeno-Associated Virus as a Novel Gene Therapeutic Tool for Otoferlin-Related Deafness.
Rankovic V, Vogl C, Dörje NM, Bahader I, Duque-Afonso CJ, Thirumalai A, Weber T, Kusch K, Strenzke N, Moser T
Frontiers in molecular neuroscience (2020) 13: 600051. . **IHC; tested species: mouse**

Loss of XBP1 Leads to Early-Onset Retinal Neurodegeneration in a Mouse Model of Type I Diabetes.
McLaughlin T, Siddiqi M, Wang JJ, Zhang SX
Journal of clinical medicine (2019) 86: . . **IHC; tested species: mouse**

Loss of XBP1 accelerates age-related decline in retinal function and neurodegeneration.
McLaughlin T, Falkowski M, Park JW, Keegan S, Elliott M, Wang JJ, Zhang SX
Molecular neurodegeneration (2018) 131: 16. . **IHC; tested species: mouse**

Dopamine D1 receptor expression is bipolar cell type-specific in the mouse retina.
Farshi P, Fyk-Kolodziej B, Krolewski DM, Walker PD, Ichinose T
The Journal of comparative neurology (2016) 52410: 2059-79. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/192003 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.