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**: 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, mild fixation (immersion fixation with 4% PFA for 15 min) according to Gierke et al. 2023 is recommended.

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**

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**

A new probe for super-resolution imaging of membranes elucidates trafficking pathways.
Revelo NH, Kamin D, Truckenbrodt S, Wong AB, Reuter-Jessen K, Reisinger E, Moser T, Rizzoli SO
The Journal of cell biology (2014) 2054: 591-606. . **IHC**

LKB1 and AMPK regulate synaptic remodeling in old age.
Samuel MA, Voinescu PE, Lilley BN, de Cabo R, Foretz M, Viollet B, Pawlyk B, Sandberg MA, Vavvas DG, Sanes JR
Nature neuroscience (2014) 179: 1190-7. . **IHC; tested species: mouse**

Selected General References

Mechanisms directing the nuclear localization of the CtBP family proteins.
Verger A et al. Mol. Cell. Biol. (2006) PubMed:16782877

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 our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) 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 freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.