SYSY Antibodies

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# BCAS1

**Cat.No. 445 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)**

## Data Sheet

| | |
|---|---|
| Reconstitution/ Storage | 100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization.<br>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.<br>Antibodies should be stored at +4°C when still lyophilized. Do not freeze!<br>For detailed information, see back of the data sheet. |
| Applications | **WB**: not recommended<br>**IP**: not tested yet<br>**ICC**: 1 : 500<br>**IHC**: 1 : 500<br>**IHC-P (FFPE)**: 1 : 1000 |
| Clone | SY-203G7 |
| Subtype | IgG1 (κ light chain) |
| Immunogen | Synthetic peptide corresponding to C-terminal residues of mouse BCAS1. (UniProt Id: Q80YN3) |
| Reactivity | Reacts with: mouse (Q80YN3), rat (Q3ZB98).<br>No signal: human (O75363).<br>Other species not tested yet. |
| Specificity | Antibody detects mouse BCAS1 isoforms with uniprot IDs Q80YN3, E9Q8Q5 and A2AVX1. It does not detect isoform F7BNZ5. It detects rat isoforms Q3ZB98-1 and -5 and is negative for isoform -2, -3, -4 and 6 |

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

## Background

BCAS1 (Breast Carcinoma Amplified Sequence 1) is widely recognized as a marker of newly formed, premyelinating and early myelinating oligodendrocytes in the central nervous system. Although initially identified because of its amplification in breast cancer [1], subsequent studies have established its predominant expression in the brain, particularly in regions undergoing active myelination or remyelination. BCAS1 expression is transient during oligodendrocyte maturation and declines as myelinating cells reach full maturity. In fetal brain BCAS1 positive oligodendrocytes are restricted to the white matter. In adult brains they persist in the grey matter until old age [2].
BCAS1 has been proposed to contribute to tumorigenesis and its expression has been found in neoplastic cells from non-CNS tissues, such as breast, prostate, pancreatic, colorectal and gastric cancer. BCAS1 also undergoes alternative splicing but the functional consequences of individual BCAS1 protein isoforms remain poorly characterized. The splice variant BCAS1-SV1 has been linked to high proliferation and migration rate in glioblastoma [3,4].
SYSY Antibodies has developed several BCAS1 antibodies against BCAS1 that recognize different BCAS1 isoforms.
For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

## Selected References for 445 011

Myelin sheath lengths in the central nervous system scale to axon diameter via oligodendroglial Piezo1.
Young AR, Galfano A, Reyngoudt J, Lewis RW, Cash M, Polis B, Zalusky M, Datta A, Bechler ME
PLoS biology (2026) 249: e3003992. . **ICC; tested species: mouse**

Endogenous histidine peptides are physiological antioxidants that prevent oligodendrocyte cell death and myelin loss in vivo.
Sajrawi C, Odeh M, Tiwari AK, Agranovich B, Abramovich I, Zubedat S, Saar G, Shaulov L, Avital A, Reznik D, Benhar M, et al.
Glia (2025) 731: 122-139. . **IHC; tested species: mouse**

## Selected General References

Positional cloning of ZNF217 and NABC1: genes amplified at 20q13.2 and overexpressed in breast carcinoma.
Collins C et al. Proc. Natl. Acad. Sci. U.S.A. (1998) PubMed:9671742

A Novel Splice Variant of BCAS1 Inhibits β-Arrestin 2 to Promote the Proliferation and Migration of Glioblastoma Cells, and This Effect Was Blocked by Maackiain.
Kuo YH et al. Cancers (Basel) (2022) PubMed:36010884

BCAS1 expression defines a population of early myelinating oligodendrocytes in multiple sclerosis lesions.
Fard MK et al. Sci Transl Med (2017) PubMed:29212715

Mice lacking BCAS1, a novel myelin-associated protein, display hypomyelination, schizophrenia-like abnormal behaviors, and upregulation of inflammatory genes in the brain.
Ishimoto T et al. Glia (2017) PubMed:38275289

Access the online factsheet including applicable protocols at https://sysy.com/product/445011 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.