SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

BCAS1

Cat.No. 445 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 µl H_2O, then aliquot and store at -20°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**: 1 : 500 **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 200 up to 1 : 1000
Immunogen	Mixture of two synthetic peptides corresponding to AA 305-327 and AA 360–379 in rat BCAS1 (UniProt Id: Q3ZB98)
Reactivity	Reacts with: mouse (Q80YN3), rat (Q3ZB98), human (O75363). Other species not tested yet.
Specificity	Specific for BCAS1 and its known isoforms
Remarks	**WB**: shows almost no signal in westernblots on mouse brain lysate.

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 445 004

Norepinephrine regulates calcium signals and fate of oligodendrocyte precursor cells in the mouse cerebral cortex.
Fiore F, Alhalaseh K, Dereddi RR, Bodaleo Torres F, Çoban I, Harb A, Agarwal A
Nature communications (2023) 141: 8122. . **ICC; tested species: mouse**

Age and Alzheimer's Disease-Related Oligodendrocyte Changes in Hippocampal Subregions.
DeFlitch L, Gonzalez-Fernandez E, Crawley I, Kang SH
Frontiers in cellular neuroscience (2022) 16: 847097. . **IHC; tested species: mouse**

Adaptive oligodendrogenesis regulates blood-hypothalamus barrier permeability, hypothalamic glucose sensing and systemic glucose homeostasis in male mice.
Buller S, Staricoff EO, Riches C, Tsang A, Giavara G, Josipovic M, Ikemura K, Opoku G, Sato I, Hirohata S, Stenzel S, et al.
Molecular metabolism (2026) 112: 102428. . **IHC; tested species: mouse**

Apolipoprotein ε4 exacerbates white matter impairment in a mouse model of Aβ amyloidosis by decreasing actively myelinating oligodendrocytes.
Al-Amin MM, Kim B, Karahan H, Tate MD, Walsh SP, Puntambekar SS, Bissel SJ, Lamb BT, Wang N, Kim J
Alzheimer's & dementia : the journal of the Alzheimer's Association (2025) 2110: e70791. . **IHC; tested species: mouse**

Micro-scale control of oligodendrocyte morphology and myelination by the intellectual disability-linked protein acyltransferase ZDHHC9.
Jeong HK, Gonzalez-Fernandez E, Crawley I, Coakley JM, Hwang J, Martin DDO, Bamji SX, Kim JI, Kang SH, Thomas GM
eLife (2025) 13: . . **IHC; tested species: mouse**

The extent of alpha-synuclein aggregate accumulation in neurons varies depending on the type of neurotransmitter they release.
Kameda H, Okamoto S, Ogasawara K, Okuzumi A, Hattori N, Hioki H, Koike M
Scientific reports (2025) 151: 44530. . **IHC; tested species: mouse**

Oligodendrocyte Maturation Alters the Cell Death Mechanisms That Cause Demyelination.
Chapman TW, Kamen Y, Piedra ET, Hill RA
The Journal of neuroscience : the official journal of the Society for Neuroscience (2024) 4413: . . **IHC; tested species: mouse**

Mitochondrial network reorganization and transient expansion during oligodendrocyte generation.
Bame X, Hill RA
Nature communications (2024) 151: 6979. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/445004 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.