

BCRP1 (ABCG2)

Cat.No. 518 005; Polyclonal Guinea pig 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 ₂ O 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 up to 1 : 2000 (AP staining) ICC: 1 : 1000 IHC: not tested yet IHC-P (FFPE): 1 : 500 up to 1 : 1000
Immunogen	Recombinant protein corresponding to residues near the carboxy region of mouse BCRP1/ABCG2 (UniProt Id: Q7TMS5)
Reactivity	Reacts with: mouse (Q7TMS5). Weaker signal: rat (Q80W57). Other species not tested yet.

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

Background

BCRP1/ABCG2 is a heavily glycosylated transmembrane protein with six transmembrane-spanning regions, suggesting a function as a semi-transporter (1). Neurospheres have been shown to have high levels of BCRP1/ABCG2, and approximately 63% of cells in neurospheres were BCRP1/ABCG2-positive, similar to the proportion of nestin-positive cells, and in most cases BCRP1/ABCG2 and nestin staining were colocalized in the same cells (2). BCRP1/ABCG2 was originally discovered in a multidrug-resistant breast cancer cell line. Past studies have expanded the understanding of its role in physiology, disease pathology, and drug resistance (3). Physiologically, BCRP1/ABCG2 is expressed in barrier organs and tissues including the blood-brain barrier, where BCRP1/ABCG2 localizes at the luminal plasma membrane of endothelial cells and facilitates directional efflux across the blood-brain barrier from brain to blood (4, 5).

Selected General References

- Role of ABCG2/BCRP in biology and medicine.
Krishnamurthy P et al. Annu Rev Pharmacol Toxicol (2006) PubMed:16402910
- Multidrug efflux transporter ABCG2: expression and regulation.
Kukul S et al. Cell Mol Life Sci (2021) PubMed:34586444
- The ABCG2 transporter is an efficient Hoechst 33342 efflux pump and is preferentially expressed by immature human hematopoietic progenitors.
Scharenberg CW et al. Blood (2002) PubMed:11781231
- Localisation of breast cancer resistance protein in microvessel endothelium of human brain.
Cooray HC et al. Neuroreport (2002) PubMed:12438926
- A new multidrug resistance protein at the blood-brain barrier.
Eisenblätter T et al. Biochem Biophys Res Commun (2002) PubMed:12054514

Access the online factsheet including applicable protocols at <https://sysy.com/product/518005> 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.