SYSY Antibodies

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mCLING

Cat.No. 710 006AT647N; , 5 nmol mCling

Data Sheet

Reconstitution/ Storage	5nmol mCLING labeled with ATTO® 647N in 100 µl PBS (lyophilized). For reconstitution add 100 µl H_2O, then aliquot and store at -80°C until use. Reconstitute immediately upon receipt! Avoid bright light when working with the probe to minimize photo bleeching of the fluorescent dye. For detailed information, see back of the data sheet.
Applications	**ICC**: 1 : 50 up to 1 : 250 (1 - 0.2 nmol/ml) **IHC**: 1 : 25 up to 1 : 50 (2 - 1 nmol/ml)
Label	ATTO 647N
Remarks	Due to the positive charge of mCLING, negatively charged coatings of cover-slips should be avoided. We recommend a positively charged coating like poly-L-lysine (PLL). mCLING is a fixable dye but paraformaldehyde alone is not able to fix this molecule sufficiently. Therefore, a mixture of 4 %paraformaldehyde (PFA) and 0.2 % glutaraldehyde is strongly advised. For detailed protocols see Revelo NH & Rizzoli SO, 2016.

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

Background

The **m**embrane-binding fluorophore-**c**ysteine-**l**ys**in**e-palmtoyl **g**roup (**mCLING**) is a new probe that selectively binds to the plasma membrane. It is taken up during endocytosis and, in contrast to conventional membrane dyes, remains attached to membranes after fixation and permeabilization and can therefore be combined with immunostaining and super-resolution microscopy.
mCLING was used so far in mammalian-cultured cells, yeast, bacteria, primary cultured neurons, Drosophila melanogaster larval neuromuscular junctions, and mammalian tissue.

Selected References for 710 006AT647N

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. . **ICC, IHC**

The Membrane Marker mCLING Reveals the Molecular Composition of Trafficking Organelles.
Revelo NH, Rizzoli SO
Current protocols in neuroscience (2016) 74: 2.25.1-21. . **ICC, IHC**

One-step nanoscale expansion microscopy reveals individual protein shapes.
Shaib AH, Chouaib AA, Chowdhury R, Altendorf J, Mihaylov D, Zhang C, Krah D, Imani V, Spencer RKW, Georgiev SV, Mougios N, et al.
Nature biotechnology (2024) : . . **EXM; tested species: rat**

Endophilin-A coordinates priming and fusion of neurosecretory vesicles via intersectin.
Gowrisankaran S, Houy S, Del Castillo JGP, Steubler V, Gelker M, Kroll J, Pinheiro PS, Schwitters D, Halbsgut N, Pechstein A, van Weering JRT, et al.
Nature communications (2020) 111: 1266. . **UPTAKE; tested species: mouse**

Landscape expansion microscopy reveals interactions between membrane and phase-separated organelles.
Zhuang Y, Zhang Z, Dai Z, Shi X
The Journal of cell biology (2026) 2254: . . **EXM; tested species: human**

Microglial Extracellular Vesicles Mediate C1q Deposition at the Pre-Synapse and Promote Synaptic Pruning.
D'Arrigo G, Cutugno G, Golia MT, Sironi F, Lombardi M, Colombo SF, Frigerio R, Cretich M, Gagni P, Battocchio E, Barone C, et al.
Journal of extracellular vesicles (2025) 1412: e70173. . **ICC; tested species: mouse**

Munc13-1 restoration mitigates presynaptic pathology in spinal muscular atrophy.
Moradi M, Weingart J, Deng C, Nasouti M, Briese M, Jablonka S, Sauer M, Sendtner M
Nature communications (2025) 161: 8724. . **ICC; tested species: mouse**

Oligodendroglial macroautophagy is essential for myelin sheath turnover to prevent neurodegeneration and death.
Aber ER, Griffey CJ, Davies T, Li AM, Yang YJ, Croce KR, Goldman JE, Grutzendler J, Canman JC, Yamamoto A
Cell reports (2022) 413: 111480. . **UPTAKE; tested species: mouse**

Visualizing cellular and tissue ultrastructure using Ten-fold Robust Expansion Microscopy (TREx).
Damstra HGJ, Mohar B, Eddison M, Akhmanova A, Kapitein LC, Tillberg PW
eLife (2022) 11: . . **ICC; tested species: human**

Vivaxin genes encode highly immunogenic, non-variant antigens on the Trypanosoma vivax cell-surface.
Romero-Ramirez A, Casas-Sánchez A, Autheman D, Duffy CW, Brandt C, Clare S, Harcourt K, André MR, de Almeida Castilho Neto KJG, Teixeira MMG, Machado RZ, et al.
PLoS neglected tropical diseases (2022) 169: e0010791. . **ICC**

Opposite Surfaces of the Cdc15 F-BAR Domain Create a Membrane Platform That Coordinates Cytoskeletal and Signaling Components for Cytokinesis.
Snider CE, Chandra M, McDonald NA, Willet AH, Collier SE, Ohi MD, Jackson LP, Gould KL
Cell reports (2020) 3312: 108526. . **ICC; tested species: fission yeast**

A versatile and customizable low-cost 3D-printed open standard for microscopic imaging.
Diederich B, Lachmann R, Carlstedt S, Marsikova B, Wang H, Uwurukundo X, Mosig AS, Heintzmann R
Nature communications (2020) 111: 5979. . **ICC; tested species: e. coli**

Access the online factsheet including applicable protocols at https://sysy.com/product/710006AT647N 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.