SYSY Antibodies

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U1-70k

Cat.No. 203 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. 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. 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 : 500 up to 1 : 1000 (AP staining) **IP**: yes **ICC**: 1 : 500 **IHC**: 1 : 500 (see remarks) **IHC-P (FFPE)**: 1 : 500 **FACS**: yes
Clone	H111
Subtype	IgG2a (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 437 from human U1-70k (UniProt Id: P08621)
Epitop	AA 1 to 275 from human U1-70k (UniProt Id: P08621)
Reactivity	Reacts with: human (P08621), rat, mouse (Q62376), mammals. Other species not tested yet.
Remarks	**IHC**: Antigen retrieval with citrate buffer pH 6 is required.

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

Background

In eukaryotic cells introns are removed from pre-mRNAs by the splicesome which consists of the U1, U2, U4, U5 and U6 small nuclear ribonucleoprotein particles (snRNPs) and other proteins.
Binding of the 5´-splicing site to the U1 snRNP is one of the first steps in the spliceosome assembly. This interaction involves base-pairing between the U1 snRNA and conserved sequences spanning the 5´-splice site.
U1-70k is a member of the U1 snRNP. It has an RNA binding domain (RBD) and directly interacts with stem-loop I of U1 snRNA.

Selected References for 203 011

tRIP-seq reveals repression of premature polyadenylation by co-transcriptional FUS-U1 snRNP assembly.
Masuda A, Kawachi T, Takeda JI, Ohkawara B, Ito M, Ohno K
EMBO reports (2020) 215: e49890. . **WB, IP; tested species: mouse**

Synergistic enhancement of production of proinflammatory cytokines of human peripheral blood monocytes by anti-Sm and anti-RNP antibodies.
Matsueda Y, Arinuma Y, Nagai T, Hirohata S
PloS one (2018) 1312: e0209282. . **FACS; tested species: human**

Evidence for a direct role of the disease modifier SCNM1 in splicing.
Howell VM, Jones JM, Bergren SK, Li L, Billi AC, Avenarius MR, Meisler MH
Human molecular genetics (2007) 1620: 2506-16. . **ICC**

Nuclear speckles enable processing of RNA from GC-rich isochores.
Małszycki M, Martina L, Ilık İA, Salgado Figueroa D, Dasgupta N, Çoşar MF, Kim KT, Carraco G, Fauler B, Meierhofer D, Mielke T, et al.
Cell (2026) : . . **WB; tested species: human**

Autonomous transposons tune their sequences to ensure somatic suppression.
Ilık İA, Glažar P, Tse K, Brändl B, Meierhofer D, Müller FJ, Smith ZD, Aktaş T
Nature (2024) : . . **WB; tested species: human**

Splicing regulation of GFPT1 muscle-specific isoform and its roles in glucose metabolisms and neuromuscular junction.
Farshadyeganeh P, Nazim M, Zhang R, Ohkawara B, Nakajima K, Rahman MA, Nasrin F, Ito M, Takeda JI, Ohe K, Miyasaka Y, et al.
iScience (2023) 2610: 107746. . **WB; tested species: mouse**

Stimulus-specific remodeling of the neuronal transcriptome through nuclear intron-retaining transcripts.
Mazille M, Buczak K, Scheiffele P, Mauger O
The EMBO journal (2022) : e110192. . **WB; tested species: mouse**

Synergistic assembly of human pre-spliceosomes across introns and exons.
Braun JE, Friedman LJ, Gelles J, Moore MJ
eLife (2018) 7: . . **WB; tested species: human**

Accumulation of nuclear ADAR2 regulates adenosine-to-inosine RNA editing during neuronal development.
Behm M, Wahlstedt H, Widmark A, Eriksson M, Öhman M
Journal of cell science (2017) 1304: 745-753. . **WB; tested species: mouse**

Post-transcriptional Regulation of De Novo Lipogenesis by mTORC1-S6K1-SRPK2 Signaling.
Lee G, Zheng Y, Cho S, Jang C, England C, Dempsey JM, Yu Y, Liu X, He L, Cavaliere PM, Chavez A, et al.
Cell (2017) 1717: 1545-1558.e18. . **WB; tested species: human**

The alternative splicing program of differentiated smooth muscle cells involves concerted non-productive splicing of post-transcriptional regulators.
Llorian M, Gooding C, Bellora N, Hallegger M, Buckroyd A, Wang X, Rajgor D, Kayikci M, Feltham J, Ule J, Eyras E, et al.
Nucleic acids research (2016) 4418: 8933-8950. . **WB**

Access the online factsheet including applicable protocols at https://sysy.com/product/203011 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.