SYSY Antibodies

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STAT6

Cat.No. HS-378 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Azide was added before lyophilization. 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**: not tested yet **IP**: not tested yet **ICC**: not tested yet **IHC**: not tested yet **IHC-P (FFPE)**: 1 : 200 up to 1 : 1000
Clone	37C12
Subtype	IgG2b (κ light chain)
Immunogen	Synthetic peptide corresponding to AA 832 to 847 from human Stat6 (UniProt Id: P42226)
Reactivity	Reacts with: human (P42226). Other species not tested yet.

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

Background

STAT 6 (**S**ignal **T**ransducer and **A**ctivator of **T**ranscription **6**) is a member of the STAT family of transcription factors. Gene fusion of NGFI-A binding protein 2 (NAB 2) with STAT 6, which converts the transcriptional repressor NAB 2 into a transcriptional activator, was detected as driver mutation in solitary fibrous tumors (SFT). The NAB 2-STAT 6 fusion shows a consistent nuclear reallocation in STAT 6 immunohistochemistry. STAT 6 is a highly sensitive and specific immunohistochemical marker for most SFT and can be helpful to distinguish this tumor type from histologic mimics.
Although considered to be a distinct entity from meningeal SFT in the WHO Classification of CNS Tumours (2007), nuclear STAT 6 expression is additionally found in meningeal hemangiopericytoma (HPC). STAT 6 is a reliable marker to distinguish meningeal solitary fibrous tumors-hemangiopericytomas versus meningiomas.
This antibody is part of the HistoSure® product line, specifically developed and tested for human pathology.

Selected General References

Differential Diagnosis of Meningeal SFT-HPC and Meningioma: Which Immunohistochemical Markers Should Be Used?
Macagno N et al. Am. J. Surg. Pathol. (2016) PubMed:26448189

NAB2-STAT6 Gene Fusion in Meningeal Hemangiopericytoma and Solitary Fibrous Tumor.
Fritchie KJ et al. J. Neuropathol. Exp. Neurol. (2016) PubMed:26883114

The utility of STAT6 and ALDH1 expression in the differential diagnosis of solitary fibrous tumor versus prostate-specific stromal neoplasms.
Guner G et al. Hum. Pathol. (2016) PubMed:27068523

Nuclear expression of STAT6 distinguishes solitary fibrous tumor from histologic mimics.
Doyle LA et al. Mod. Pathol. (2014) PubMed:24030747

Meningeal hemangiopericytoma and solitary fibrous tumors carry the NAB2-STAT6 fusion and can be diagnosed by nuclear expression of STAT6 protein.
Schweizer L et al. Acta Neuropathol. (2013) PubMed:23575898

Identification of recurrent NAB2-STAT6 gene fusions in solitary fibrous tumor by integrative sequencing.
Robinson DR et al. Nat. Genet. (2013) PubMed:23313952

Access the online factsheet including applicable protocols at https://sysy.com/product/HS-378011 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.