

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 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: not tested yet IP: not tested yet ICC: not tested yet IHC: not tested yet IHC_P: 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

Access the online factsheet including applicable protocols at <https://susy-histosure.com/product/HS-378011> or scan the QR-code.



Background

STAT 6 (Signal Transducer and Activator of Transcription 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, Figarella-Branger D, Mokthari K, Metellus P, Jouvet A, Vasiljevic A, Loundou A, Bouvier C. The American journal of surgical pathology (2016) 402: 270-8. .

NAB2-STAT6 Gene Fusion in Meningeal Hemangiopericytoma and Solitary Fibrous Tumor. Fritchie KJ, Jin L, Rubin BP, Burger PC, Jenkins SM, Barthelmeß S, Moskalev EA, Haller F, Oliveira AM, Giannini C. Journal of neuropathology and experimental neurology (2016) 753: 263-71. .

The utility of STAT6 and ALDH1 expression in the differential diagnosis of solitary fibrous tumor versus prostate-specific stromal neoplasms.

Guner G, Bishop JA, Bezerra SM, Taheri D, Zahavi DJ, Mendoza Rodriguez MA, Sharma R, Epstein JI, Netto GJ. Human pathology (2016) 54: 184-8. .

Nuclear expression of STAT6 distinguishes solitary fibrous tumor from histologic mimics.

Doyle LA, Vivero M, Fletcher CD, Mertens F, Hornick JL. Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc (2014) 273: 390-5. .

Meningeal hemangiopericytoma and solitary fibrous tumors carry the NAB2-STAT6 fusion and can be diagnosed by nuclear expression of STAT6 protein.

Schweizer L, Koelsche C, Sahm F, Piro RM, Capper D, Reuss DE, Pusch S, Habel A, Meyer J, Göck T, Jones DT, et al. Acta neuropathologica (2013) 1255: 651-8. .

Identification of recurrent NAB2-STAT6 gene fusions in solitary fibrous tumor by integrative sequencing.

Robinson DR, Wu YM, Kalyana-Sundaram S, Cao X, Lonigro RJ, Sung YS, Chen CL, Zhang L, Wang R, Su F, Iyer MK, et al. Nature genetics (2013) 452: 180-5. .

FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form 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. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.