SYSY Antibodies

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Histone3.3 G34V

Cat.No. HS-388 011; 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 recommended **IP**: not tested yet **ICC**: not tested yet **IHC**: not tested yet **IHC-P (FFPE)**: 1 : 1000 up to 1 : 2000 **ChIP**: external data (see remarks)
Clone	329E5
Subtype	IgG2b
Immunogen	Synthetic peptide corresponding to AA 29 to 38 from human H3F3A G34V (UniProt Id: P84243)
Reactivity	Reacts with: human (P84243). Other species not tested yet.
Specificity	Specific for the H3.3 G34V mutant. Negligible cross-reactivity to H3.3 G34R, and no cross-reactivity to unmutated H3.3. K.O. validated
Remarks	**ChIP**: This antibody has been successfully applied and published for this method by customers (see application-specific references).

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

Background

The gene mutations **H3.3 G34V** and H3.3 G34R of histone 3.3 (H3.3 or H3F3A) have been recently identified as driver mutations in paediatric glioblastoma. G34V/R mutations are restricted to tumors of the cerebral hemispheres and are most prevalent in adolescents and young adults. These mutations cause profound upregulation of MYCN, a potent oncogene. Emerging evidence strongly suggests that paediatric glioblastomas with H3F3A mutations can be subclassified into distinct entities.

This antibody is part of the HistoSure® product line, specifically developed and tested for human pathology.

Selected References for HS-388 011

GABAergic neuronal lineage development determines clinically actionable targets in diffuse hemispheric glioma, H3G34-mutant.
Liu I, Alencastro Veiga Cruzeiro G, Bjerke L, Rogers RF, Grabovska Y, Beck A, Mackay A, Barron T, Hack OA, Quezada MA, Molinari V, et al.
Cancer cell (2024) : . . **CHIP; tested species: human**

Correlation Between Immunohistochemistry and Sequencing in H3G34-Mutant Gliomas.
Gianno F, Antonelli M, Di Dio T, Minasi S, Donofrio V, Buccoliero AM, Gardiman MP, Pollo B, Diomedi Camassei F, Rossi S, Novello M, et al.
The American journal of surgical pathology (2021) 452: 200-204. . **IHC-P; tested species: human**

Selected General References

Mutations in chromatin machinery and pediatric high-grade glioma.
Lulla RR et al. Sci Adv (2016) PubMed:27034984

Histone H3.3. mutations drive pediatric glioblastoma through upregulation of MYCN.
Bjerke L et al. Cancer Discov (2013) PubMed:23539269

Driver mutations in histone H3.3 and chromatin remodelling genes in paediatric glioblastoma.
Schwartzentruber J et al. Nature (2012) PubMed:22286061

Somatic histone H3 alterations in pediatric diffuse intrinsic pontine gliomas and non-brainstem glioblastomas.
Wu G et al. Nat. Genet. (2012) PubMed:22286216

Access the online factsheet including applicable protocols at https://sysy.com/product/HS-388011 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.