SYSY | HistoSure

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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**: 1 : 1000 up to 1 : 2000 **ChIP**: yes
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

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) : . . **ICC, WB; 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-histosure.com/product/HS-388011 or scan the QR-code.

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.