

Jmjd6

Cat.No. 277 011; 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 recommended IP: not tested yet ICC: 1 : 500 (see remarks) IHC: not tested yet IHC-P: not tested yet
Clone	mAb328
Subtype	IgG2a (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 403 from human Jmjd6 (UniProt Id: Q6NYC1)
Reactivity	Reacts with: human (Q6NYC1), rat (Q6AYK2), mouse (Q9ER15). Other species not tested yet.
Specificity	K.O. validated PubMed: 26531897
Remarks	ICC: 0.3-0.5 % tritonx-100 are recommended for permeabilization to allow efficient penetration of the antibody.

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

Background

The nuclear protein **Jmjd 6** belongs to the family Jumonji domain containing proteins and catalyses the lysyl-hydroxylation of the splicing factor U2AF65. This influences alternative splicing of several endogenous and reporter genes.

In addition it has been shown to mediate the lysyl-hydroxylation of histones suggesting an implication in epigenetic regulation of gene expression or chromosomal rearrangements.

Selected References for 277 011

Intrinsic regulation of Aire expression by Jmjd6 for self-tolerance induction in the thymus.
Yanagihara T, Sanematsu F, Sato T, Uruno T, Duan X, Tomino T, Harada Y, Watanabe M, Wang Y, Tanaka Y, Nakanishi Y, et al. Nature communications (2015) 6: 8820. . **ICC; KO verified**

JMJD6 modulates DNA damage response through downregulating H4K16ac independently of its enzymatic activity.
Huo D, Chen H, Cheng Y, Song X, Zhang K, Li MJ, Xuan C Cell death and differentiation (2019) . . **ICC; tested species: human**

Analysis of Jmjd6 cellular localization and testing for its involvement in histone demethylation.
Hahn P, Wegener I, Burrells A, Böse J, Wolf A, Erck C, Butler D, Schofield CJ, Böttger A, Lengeling A PLoS one (2010) 510: e13769. .

Selected General References

High expression of JMJD6 predicts unfavorable survival in lung adenocarcinoma.
Zhang J, Ni SS, Zhao WL, Dong XC, Wang JL Tumour biology : the journal of the International Society for Oncodevelopmental Biology and Medicine (2013) 344: 2397-401. .

Lysyl 5-hydroxylation, a novel histone modification, by Jumonji domain containing 6 (JMJD6).
Unoki M, Masuda A, Dohmae N, Arita K, Yoshimatsu M, Iwai Y, Fukui Y, Ueda K, Hamamoto T, Shirakawa M, Sasaki H, et al. The Journal of biological chemistry (2013) 2889: 6053-62. .

JMJD6 is a driver of cellular proliferation and motility and a marker of poor prognosis in breast cancer.
Lee YF, Miller LD, Chan XB, Black MA, Pang B, Ong CW, Salto-Tellez M, Liu ET, Desai KV Breast cancer research : BCR (2012) 143: R85. .

The 2-oxoglutarate-dependent oxygenase JMJD6 catalyses oxidation of lysine residues to give 5S-hydroxylysine residues.
Mantri M, Loik ND, Hamed RB, Claridge TD, McCullagh JS, Schofield CJ Chembiochem : a European journal of chemical biology (2011) 124: 531-4. .

Jumonji domain-containing protein 6 (Jmjd6) is required for angiogenic sprouting and regulates splicing of VEGF-receptor 1.
Boeckel JN, Guarani V, Koyanagi M, Roexe T, Lengeling A, Schermuly RT, Gellert P, Braun T, Zeiher A, Dimmeler S Proceedings of the National Academy of Sciences of the United States of America (2011) 1088: 3276-81. .

Jmjd6 catalyses lysyl-hydroxylation of U2AF65, a protein associated with RNA splicing.
Webby CJ, Wolf A, Gromak N, Dreger M, Kramer H, Kessler B, Nielsen ML, Schmitz C, Butler DS, Yates JR, Delahunty CM, et al. Science (New York, N.Y.) (2009) 3255936: 90-3. .

JMJD6 is a histone arginine demethylase.
Chang B, Chen Y, Zhao Y, Bruick RK Science (New York, N.Y.) (2007) 3185849: 444-7. .

Access the online factsheet including applicable protocols at <https://sysy.com/product/277011> 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.