SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

METTL3

Cat.No. 417 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin was added for stabilization. For **reconstitution** add 50 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**: 1 : 1000 AP-staining **IP**: not tested yet **ICC**: 1 : 500 **IHC**: not tested yet **IHC_P**: not tested yet
Immunogen	Recombinant protein corresponding to AA 2 to 118 from mouse METTL3 (UniProt Id: Q8C3P7)
Reactivity	Reacts with: mouse (Q8C3P7), human (Q86U44), rat (F7FFC6). Other species not tested yet.
Specificity	Specific for isoform 1 K.D. PubMed: 34108665

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

Background

The **METTL3**-METTL14 heterodimer forms a N6-methyltransferase complex that methylates adenosine residues of RNAs at the 5'-[AG]GAC-3' consensus sites. N6-methyladenosine (m6A) has been shown to function as an important regualtory element in many processes like the circadian clock, differentiation of embryonic stem cells, primary miRNA processing, mRNA splicing, translation efficiency, mRNA editing and stability.

Selected References for 417 003

RNA m6A modification orchestrates a LINE-1-host interaction that facilitates retrotransposition and contributes to long gene vulnerability.
Xiong F, Wang R, Lee JH, Li S, Chen SF, Liao Z, Hasani LA, Nguyen PT, Zhu X, Krakowiak J, Lee DF, et al.
Cell research (2021) : . . **WB; KD verified; tested species: human**

m6A-driven SF3B1 translation control steers splicing to direct genome integrity and leukemogenesis.
Cieśla M, Ngoc PCT, Muthukumar S, Todisco G, Madej M, Fritz H, Dimitriou M, Incarnato D, Hellström-Lindberg E, Bellodi C
Molecular cell (2023) 837: 1165-1179.e11. . **WB; KD verified; tested species: human**

Enhancer RNA m6A methylation facilitates transcriptional condensate formation and gene activation.
Lee JH, Wang R, Xiong F, Krakowiak J, Liao Z, Nguyen PT, Moroz-Omori EV, Shao J, Zhu X, Bolt MJ, Wu H, et al.
Molecular cell (2021) 8116: 3368-3385.e9. . **WB; tested species: human**

Selected General References

m(6)A RNA modification controls cell fate transition in mammalian embryonic stem cells.
Batista PJ, Molinie B, Wang J, Qu K, Zhang J, Li L, Bouley DM, Lujan E, Haddad B, Daneshvar K, Carter AC, et al.
Cell stem cell (2014) 156: 707-19. .

The m(6)A Methyltransferase METTL3 Promotes Translation in Human Cancer Cells.
Lin S, Choe J, Du P, Triboulet R, Gregory RI
Molecular cell (2016) 623: 335-345. .

Structural basis of N(6)-adenosine methylation by the METTL3-METTL14 complex.
Wang X, Feng J, Xue Y, Guan Z, Zhang D, Liu Z, Gong Z, Wang Q, Huang J, Tang C, Zou T, et al.
Nature (2016) 5347608: 575-8. .

N6-methyladenosine modification destabilizes developmental regulators in embryonic stem cells.
Wang Y, Li Y, Toth JI, Petroski MD, Zhang Z, Zhao JC
Nature cell biology (2014) 162: 191-8. .

A METTL3-METTL14 complex mediates mammalian nuclear RNA N6-adenosine methylation.
Liu J, Yue Y, Han D, Wang X, Fu Y, Zhang L, Jia G, Yu M, Lu Z, Deng X, Dai Q, et al.
Nature chemical biology (2014) 102: 93-5. .

RNA-methylation-dependent RNA processing controls the speed of the circadian clock.
Fustin JM, Doi M, Yamaguchi Y, Hida H, Nishimura S, Yoshida M, Isagawa T, Morioka MS, Kakeya H, Manabe I, Okamura H, et al.
Cell (2013) 1554: 793-806. .

Access the online factsheet including applicable protocols at https://sysy.com/product/417003 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.