

**DESCRIPTION**

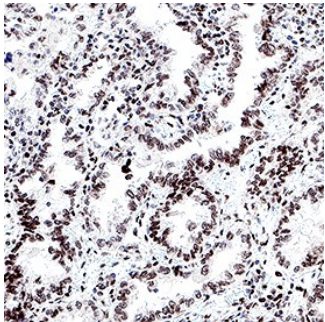
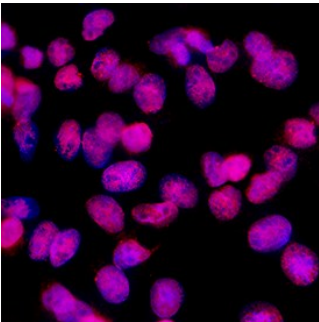
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human METTL3.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 1075034
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	METTL3 containing Synthetic Peptide Accession # Q86U44
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Immunocytochemistry</b>	3-25 µg/mL	Fixed HepG2 human hepatocellular carcinoma cell line
<b>Immunohistochemistry</b>	3-25 µg/mL	Immersion fixed paraffin-embedded sections of human lung cancer

**DATA**

<p><b>Immunohistochemistry</b></p>  <p><b>Detection of METTL3 in Human Lung Cancer.</b> METTL3 was detected in immersion fixed paraffin-embedded sections of human lung cancer using Mouse Anti-Human METTL3 Monoclonal Antibody (Catalog # MAB11514) at 1.7 µg/ml for 1 hour at room temperature followed by incubation with the HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007) or Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the nucleus and cytoplasm. View our protocol for <a href="#">Chromogenic IHC Staining of Paraffin-embedded Tissue Sections</a>.</p>	<p><b>Immunocytochemistry</b></p>  <p><b>Detection of METTL3 in HepG2 Human Cell Line.</b> METTL3 was detected in fixed HepG2 human hepatocellular carcinoma cell line using Mouse Anti-Human METTL3 Monoclonal Antibody (Catalog # MAB11514) at 8 µg/ml for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to the nucleus. View our protocol for <a href="#">Fluorescent ICC Staining of Cells on Coverslips</a>.</p>
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**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
<b>Shipping</b>	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

METTL3 is a 70 kDa subunit and is the sole catalytic subunit in the methyltransferase complex which catalyzes N6-methyladenosine. N6-methyladenosine is the most abundant mRNA modification. The full-length METTL3 protein consists of 580 amino acids. METTL3 plays a key role in a variety of cancers and expression is dysregulated via different mechanisms. It plays a critical role in tumorigenesis, tumor growth, metastasis, metabolic reprogramming, immune cell infiltration, and tumor drug resistance. METTL3 can be an oncogene through depositing m6A modifications on critical transcripts. In some cases, it can also be a tumor suppressor possibly by promoting cell cycle arrest in the G1 phase.

**References:**

1. Zeng C, Huang W, Li Y, Weng H. Roles of METTL3 in cancer: mechanisms and therapeutic targeting. *J Hematol Oncol.* 2020 Aug 27;13(1):117. doi: 10.1186/s13045-020-00951-w. PMID: 32854717; PMCID: PMC7457244.
2. Jin Q, Qu H, Quan C. New insights into the regulation of METTL3 and its role in tumors. *Cell Commun Signal.* 2023 Nov 23;21(1):334. doi: 10.1186/s12964-023-01360-5. PMID: 37996892; PMCID: PMC10732098.