

DESCRIPTION

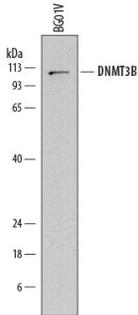
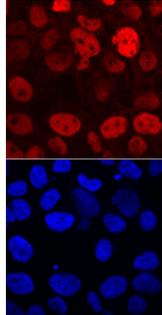
Species Reactivity	Human
Specificity	Detects human DNMT3B in ELISAs.
Source	Monoclonal Mouse IgG _{2A} Clone # 832121
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human DNMT3B Met1-Pro355 Accession # Q9UBC3
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

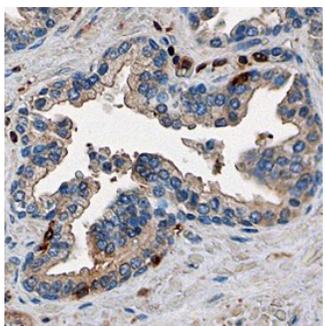
APPLICATIONS

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.

	Recommended Concentration	Sample
Western Blot	2 µg/mL	See Below
Immunocytochemistry	8-25 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below

DATA

<p>Western Blot</p>  <p>Detection of Human DNMT3B by Western Blot. Western blot shows lysates of BG01V human embryonic stem cells. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human DNMT3B Monoclonal Antibody (Catalog # MAB7646) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for DNMT3B at approximately 105 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunocytochemistry</p>  <p>DNMT3B in iPS2 Human Stem Cell Line. DNMT3B was detected in immersion fixed iPS2 human induced pluripotent stem cell line using Mouse Anti-Human DNMT3B Monoclonal Antibody (Catalog # MAB7646) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red, upper panel; Catalog # NL007) and counterstained with DAPI (blue, lower panel). Specific staining was localized to nuclei. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>
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<p>Immunohistochemistry</p>  <p>DNMT3B in Human Colon. DNMT3B was detected in immersion fixed paraffin-embedded sections of human colon using Mouse Anti-Human DNMT3B Monoclonal Antibody (Catalog # MAB7646) at 15 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to nuclei in epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.</p>
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PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

DNMT3B (DNA methyltransferase 3B; also DNA MTase HsallIB) is a 95-110 kDa member of the C5-methyltransferase family of enzymes. It is ubiquitously expressed in the embryo and found associated with nuclear pericentric heterochromatin. Pericentric heterochromatin is chromatin composed of satellite repeats that lie adjacent to the centromere. DNA (cytosine-guanine dinucleotides) associated with this area undergoes methylation, contributing to gene repression and proper chromosome segregation. Human DNMT3B is 853 amino acids (aa) in length. It contains a PWWP (Pro-Trp-Trp-Pro) domain that binds DNA (aa 225-283), a ADD (ATR, DNMT3, DNMT3L) domain that contains a Zn-finger and binds to an unmethylated histone H3 tail (aa 423-555), and a class I AdoMet-MTase catalytic region that uses S-adenosyl-L-homocysteine as a substrate for methyl transfer (aa 577-847). There are at least five isoform variants. All show a deletion of aa 365-375. In addition, a second contains an alternative start site 12 aa upstream of the standard site, a third shows a deletion of aa 745-807, a fourth contains a Ser substitution for aa 744-853, while a fifth possesses a 45 aa substitution for aa 768-853. Over aa 1-355, human DNMT3B shares 73% aa sequence identity with mouse DNMT3B.