

PRODUCT INFORMATION



DNMT3B/DNMT3L Complex (human, recombinant)

Item No. 36311

Overview and Properties

Synonyms: DNA (Cytosine-5)-Methyltransferase 3B, DNA (Cytosine-5)-Methyltransferase 3-Like, DNA Methyltransferase HsaIIIB, DNA MTase HsaIIIB, M.HsaIIIB
Source: Active recombinant human N-terminal GST-tagged DNMT3B and N-terminal His-tagged DNMT3L expressed in insect cells
Amino Acids: 564-853 (DNMT3B) and 160-387 (DNMT3L)
Molecular Weight: 59 kDa (DNMT3B) and 27 kDa (DNMT3L)
Storage: -80°C (as supplied)
Stability: ≥6 months
Purity: *batch specific* (≥90% estimated by SDS-PAGE)
Supplied in: 40 mM Tris-HCl, pH 8.0, with 110 mM sodium chloride, 2.2 mM potassium chloride, 16 mM glutathione, and 20% glycerol

Protein

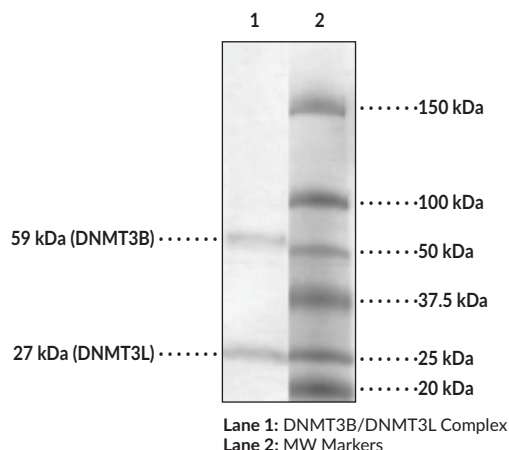
Concentration: *batch specific* mg/ml

Activity: *batch specific* U/ml

Specific Activity: *batch specific* U/mg

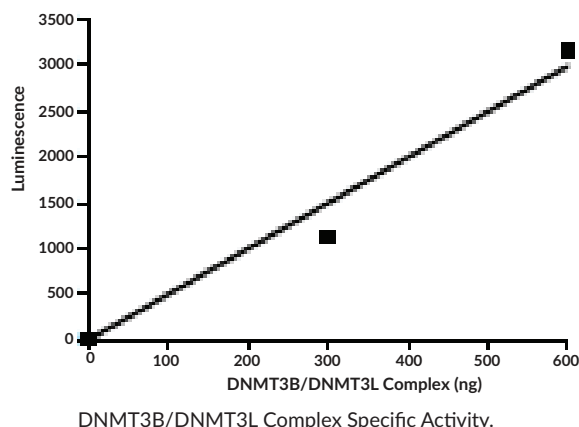
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



SDS-PAGE Analysis of DNMT3B and DNMT3L.

Representative gel image shown; actual purity may vary between each batch.



DNMT3B/DNMT3L Complex Specific Activity.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

DNA methyltransferase 3B (DNMT3B) and DNMT3L are members of the DNMT3 family.^{1,2} DNMT3B is composed of variable N-terminal, proline-tryptophan-tryptophan-proline (PWWP), cysteine-rich, and C-terminal catalytic domains. DNMT3L has a similar sequence to DNMT3B but lacks the PWWP domain and residues in the C-terminal domain that are required for DNA methyltransferase activity.¹ DNMT3B and DNMT3A are responsible for *de novo* methylation of cytosines in cytosine-phosphate-guanine (CpG) sites of DNA in germ cells and embryos and DNMT3L is required for their activity.¹⁻³ The methylation patterns established by the DNMT3 family are maintained by DNMT1.² Mutations in *DNMT3B* are associated with ICF syndrome, which is characterized by immune defects, centromeric instability, and facial anomalies.¹ Cayman's DNMT3B/DNMT3L Complex (human, recombinant) protein can be used for enzyme assays.

References

1. Cheng, X. and Blumenthal, R.M. Mammalian DNA methyltransferases: A structural perspective. *Structure* **16**(3), 341-50 (2008).
2. Jeltsch, A. and Jurkowska, R.Z. *DNA Methyltransferases - Role and Function. Advances in Experimental Medicine and Biology, Springer International Publishing, Switzerland* (2016).
3. Suetake, I., Shinozaki, F., Miyagawa, J., et al. DNMT3L stimulates the DNA methylation activity of Dnmt3a and Dnmt3b through a direct interaction. *J. Biol. Chem.* **279**(26), 27816-27823 (2004).

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