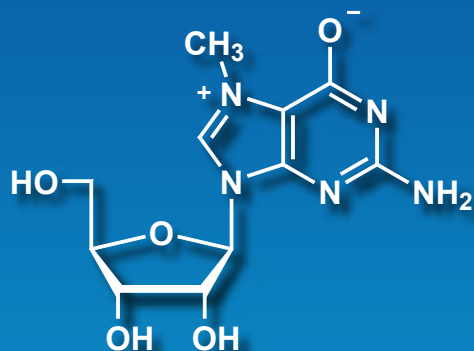
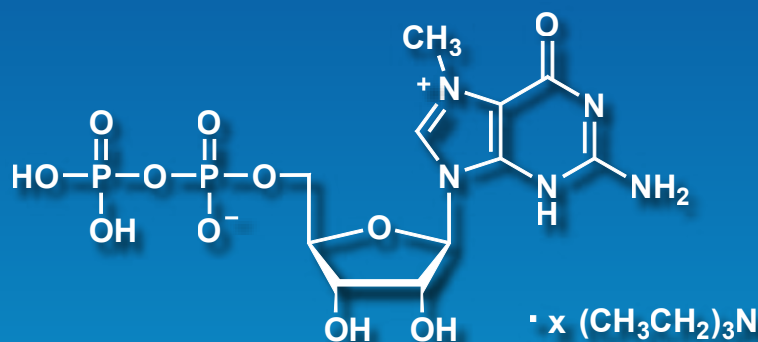


# Methylated Nucleoside and Nucleotide in the 5'-Terminal Structure of Eukaryotic mRNA



**7-Methylguanosine (= m<sup>7</sup>G)**  
200mg / 1g  
**[M3465]**



**7-Methylguanosine 5'-Diphosphate Triethylamine Salt**  
25mg / 100mg  
**[M3631] New**

7-Methylguanosine (m<sup>7</sup>G) is a purine base modified by the addition of a methyl group and closely resembles the 5'-terminal cap structure present on eukaryotic mRNA. The 7-methylguanosine "cap" is required for the translation of the majority of mRNAs, and it has also been reported to stabilize mRNA against attack by exonucleases and to promote transcription, splicing, polyadenylation and nuclear export of mRNA.<sup>1-3)</sup> Therefore, efficient mRNA capping enzymatic processes have been studied utilizing 7-methylguanosine.<sup>4)</sup> In addition, 7-methylguanosine cannot be re-phosphorylated and reused for de novo synthesis, and so is excreted by cells and can be detected in serum and urine. Therefore, it has been used as a biomarker for some types of cancer.<sup>5,6)</sup> 7-Methylguanosine 5'-diphosphate has been used to synthesize analogs of the 5'-terminal caps of eukaryotic mRNAs, including 7-methylguanosine.<sup>7)</sup>

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## Related Products (Base-Modified Ribonucleosides in RNA)

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**Pseudouridine**  
**Inosine**  
**5-Methylcytidine**  
**5-Methyluridine**

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100mg **[P2939]**  
50mg **[P2396]**  
25g / 500g **[I0037]**  
1g **[M1931]**  
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