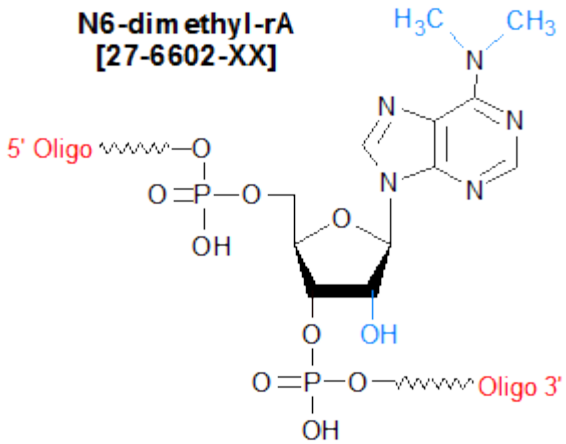
N6-dimethyl rA [m6-6A]

Category	Others
Modification Code	m6-6A
Reference Catalog Number	27-6602
5 Prime	Y
3 Prime	Y
Internal	Y
Molecular Weight(mw)	333.2



N6-dimethyl-riboadenosine (N6-dimethyl rA) is a minor RNA modification found primarily in rRNA (1), and recently, in Mycobacterium tRNA (2). N6-dimethyl rA appears to play a structural role in rRNA; in 16S RNA of E. coli, two successive N6-dimethyl rA modifications are present 24 and 25 residues from the 3' end, and nowhere else (3). These residues are located at the interface between the 30S and 50S subunits of 70S E. coli rRNA (1), but do not appear to play a major role in the binding of fMet-tRNA, or in initiation of protein synthesis (4). Its precise role in tRNA is yet unknown. **References**

1. Politz, S.M., Glitz, D.G. Ribosome structure: Localization of N6, N6-dimethyladenosine by electron microscopy of a ribosome-antibody complex.*Proc. Natl. Acad. Sci. USA.* (1997), **74**: 1468-1472.
2. Chan, C.T.Y., Chionh, Y.H., Ho, C-H., Lim, K.S., Babu, I.R., Ang, E., Wenwei, L., Alonso, S., Dedon, P.C. Identification of N6,N6-Dimethyladenosine in Transfer RNA from Mycobacterium bovis Bacille Calmette-Guerin. *Molecules* (2011), **16**: 5168-5181.
3. Ehresmann, C., Stiegler, P., Mackie, G.A., Zimmermann, R.A., Ebel, J.P., Fellner, P. Primary sequence of the 16S ribosomal RNA of Eschericia coli. *Nucleic Acids Res.* (1975), **2**: 265-278.
4. Studies on the Function of Two Adjacent N6,N6-Dimethyladenosines Near the 3' End of 16 S Ribosomal RNA of Escherichia coli. *J. Biol. Chem.* (1979), **254**: 9090-9094.