



Product Specifications

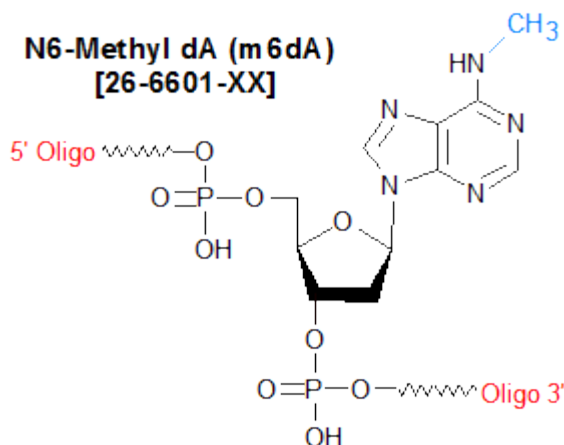
Custom Oligo Synthesis, antisense oligos, RNA oligos, chimeric oligos, Fluorescent dyes, Affinity Ligands, Spacers & Linkers, Duplex Stabilizers, Minor bases, labeled oligos, Molecular Beacons, siRNA, phosphonates Locked Nucleic Acids (LNA); 2'-5' linked Oligos

Oligo Modifications

For research use only. Not for use in diagnostic procedures for clinical purposes.

N6-Methyl dA (m6dA)

Category	Epigenetics
Modification Code	m6dA
Reference Catalog Number	26-6601
5 Prime	Y
3 Prime	Y
Internal	Y
Molecular Weight(mw)	327.24



N6-Methyl-deoxyadenosine (N6-Me-dA) is a methylated nucleoside base that to date has only been found in bacterial and protist DNA (1). In these organisms, N6-Me-dA plays several roles, including post-replicative DNA mis-match repair, chromosome compaction and regulation of gene expression (2). Adenine methylation also is essential for either the viability or virulence of a number of pathological bacterial strains (3). Because of these properties, there is considerable interest in the bacterial enzyme N6-DNA methyltransferase (which methylates adenine) as a potential target for developing new anti-microbials (4), as well as the need to confirm whether or not this enzyme is present in mammals, including human (5). N6-Me-dA-modified oligonucleotides can serve as important research tools in such studies. **References**

1. Hattman, S. DNA-[adenine] methylation in lower eukaryotes. *Biochemistry (Mosc)* (2005), **70**: 550-558.
2. Wion, D., Casadesus, J. N(6)-methyl-adenine: an epigenetic signal for DNA-protein interactions. *Nat. Rev. Microbiol.* (2006), **4**: 183-192.
3. Heithoff, D.M., Sinsheimer, R.L., Low, D.A., Mahan, M.J. An essential role for DNA adenine methylation in bacterial virulence. *Science* (1999), **284**: 967-970.
4. Mashoon, N., Carroll, M., Pruss, C., Eberhard, J., Ishikawa, S., Estabrook, R.A., Reich, N. Functional characterization of *Escherichia coli* DNA adenine methyltransferase, a novel target for antibiotics. *J. Biol. Chem.* (2004), **279**: 52075-52081.
5. Ratel, D., Ravanat, J-L., Charles, M-P., Platet, N., Breuillaud, L., Lunardi, J., Berger, F., Wion, D. Undetectable levels of N6-methyl adenine in mouse DNA. Cloning and analysis of PRED28, a gene coding for a putative mammalian DNA adenine methyltransferase. *FEBS Microbiol. Lett.* (2006), **580**: 3179-3184.