2'-OMe-5-Me-C

**Category**  
Structural Studies

**Modification Code**  
2'm5mdC

**Reference Catalog Number**  
26-6508

| 5 Prime | Y |
| 3 Prime | Y |
| Internal | Y |

**Molecular Weight (mw)**  
333.24

2'-OMethyl-5-methyl cytosine (2'-OMe-5-Me-C) is an RNA monomer that pairs with G, and when substituted for C in an oligonucleotide, both increases the stability of the resulting duplex relative to the comparable unmodified form, and confers nuclease resistance at that position(1). This “double-methylated”-modified cytosine thus is an excellent choice for incorporation into anti-sense oligos, where both properties are particularly desirable. Furthermore, because anti-sense oligonucleotides containing a CpG motif are known to induce pro-inflammatory responses after in vivo administration to animals, including human, via activation of Toll-like receptor 9 (TLR9), substitution of 2'-OMe-5-Me-dC for C in these motifs can prevent or sharply reduce these undesirable immune responses (2,3).

**References**