



## Product Specifications

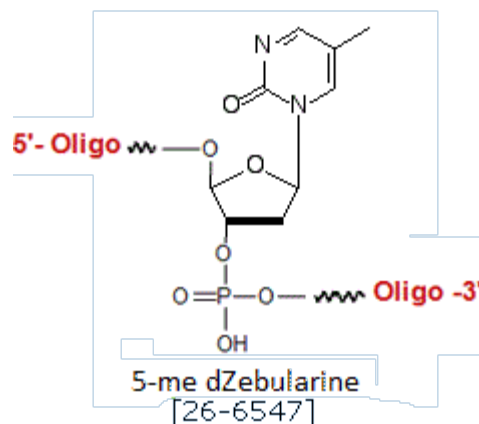
Custom Oligo Synthesis, antisense oligos, RNA oligos, chimeric oligos, Fluorescent dyes, Affinity Ligands, Spacers & Linkers, Duplex Stabilizers, Minor bases, labeled oligos, Molecular Beacons, siRNA, phosphonates Locked Nucleic Acids (LNA); 2'-5' linked Oligos

## Oligo Modifications

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

### Zebularine- deoxy-5 methyl

Category	Structural Studies
Modification Code	dZ-5me
Reference Catalog Number	26-6547
5 Prime	Y
3 Prime	Y
Internal	Y
Molecular Weight(mw)	288.19



Zebularine (pyrimidin-2-one ribonucleoside) may be regarded as a Cytidine derivative lacking the exocyclic amino group. Zebularine and Pyridin-2-one Ribonucleoside, the 3-deaza analogue of Zebularine, are prime candidates for use in evaluating ribozyme activity and function. It should be noted that Zebularine is mildly fluorescent, absorbing at 298nm and emitting at 367nm.

Cytosine Arabanoside (Ara-C) is an anti-viral drug which has achieved limited use. Its effect on DNA structure and activity can be investigated by incorporating it into synthetic oligonucleotides.

Zebularine (pyrimidin-2-one ribonucleoside) is a cytidine analogue that acts as a DNA demethylase inhibitor, as well as a cytidine deaminase inhibitor. This structure is very active biologically and Zebularine is now used as a potent anti-cancer drug. A 2'-deoxynucleoside analogue of Zebularine, 5-methyl-pyrimidin-2-one, 2'-deoxynucleoside, has been used to probe the initiation of the cellular DNA repair process by making use of its mildly fluorescent properties. This combination of biological activity and fluorescence properties would make 5-Me-2'-deoxyZebularine a strong addition to our array of nucleoside analogues.

#### References

1. Gildea, B.; McLaughlin, L. W. *Nucleic Acids Res.* 1989, 17(6), 2261-2281.
2. Singleton, S. F. et al., *Organic Lett.* 2001, 3, 3919-3922.
3. Iacono, J. A.; Gildea, B.; McLaughlin, L. W., *Tetrahedron Lett.* 1990, 31, 175-178.