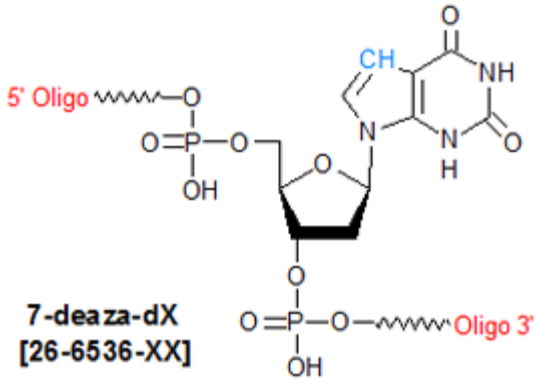
7-deaza-dX

Category	Triplex Stability
Modification Code	7-deaza-dX
Reference Catalog Number	26-6536
5 Prime	Y
3 Prime	Y
Internal	Y
Molecular Weight(mw)	329.21



This product has been discontinued. See related modifications for alternate modifications. 7-deaza-8-aza-dA [7de-8-aza-dA]. 7-deaza deoxy Inosine [7-deaza-dI].

7-deaza-deoxyxanthosine (7-deaza-dX) is a deoxyribonucleoside in which the 7-nitrogen (N7) of the base is replaced by C-H. The resulting modified dX is unable to form a hydrogen bond at position 7. 7-deaza-dX is a useful research tool for DNA structural studies. For example, in one study on triple helix formation, the authors showed that 7-deaza-X:A-T triplets are stable and can be used to facilitate formation of triple helices in the anti-parallel motif (1). In a different study related to development of an expanded genetic alphabet, the ability of 7-deaza-dX to form non-standard base pair with an 2,4-diaminopyrimidine analog (2). Note that in both studies, their authors used H-phosphonate chemistry to incorporate 7-deaza-dX into the oligonucleotide. **References**

1. Milligan, J.F., Krawczyk, S.H., Wadwani, S., Matteucci, M.D. An anti-parallel triple helix motif with oligodeoxynucleotides containing 2-deoxyguanosine and 7-deaza-2'-deoxyxanthosine.*Nucleic Acids Res.* (1993), **21**: 327-333.
2. Lutz, M.J., Held, H.A., Hottiger, M., Hubscher, U., Benner, S.A. Differential discrimination of DNA polymerase for variants of the non-standard nucleobase pair between xanthosine and 2,4-diaminopyrimidine, two components of an expanded genetic alphabet.*Nucleic Acids Res.* (1996), **24**: 1308-1313.