



Product Specifications

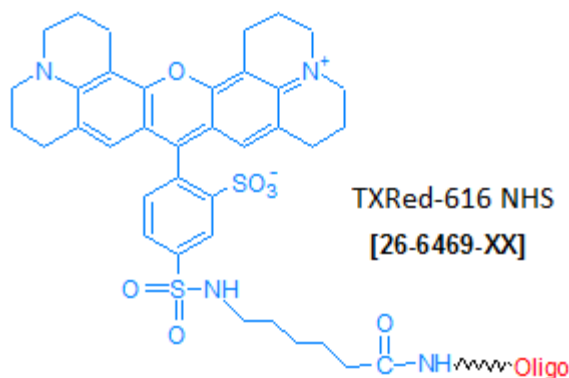
Custom Oligo Synthesis, antisense oligos, RNA oligos, chimeric oligos, Fluorescent dyes, Affinity Ligands, Spacers & Linkers, Duplex Stabilizers, Minor bases, labeled oligos, Molecular Beacons, siRNA, phosphonates Locked Nucleic Acids (LNA); 2'-5' linked Oligos

Oligo Modifications

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

TXRed-616 N

Category	Fluorescent Dyes
Modification Code	TXRed-616-N
Reference Catalog Number	26-6469
5 Prime	Y
3 Prime	Y
Internal	Y
Molecular Weight(mw)	406.1



[Click here for a list of fluorophores.](#)

[Click here to view Cal Fluor Red 610 that is coupled directly to an oligo and is a good substitute for Texas Red fluorophore.](#)

This modification is a post synthesis conjugation to a primary amino group thus an additional modification with an amino group is required. A C3, C6 or C12 amino group can be placed at the 5' or for the 3' end a C3 or C7 amino and for internal positions an amino modified base is used, e.g Amino dT C6.

Yield: NHS based modifications are post synthesis conjugation performed using a primary amino group. The yield is lower as compared to direct automated coupling of modifications that are available as amidites. Approximate yield for various scales are given below.

Yield given below are for oligos shorter than 50mer. Please see longer oligos yield at this link [Long Oligo Typical Yield](#).

~2 nmol final yield for 50 nmol scale synthesis.

~5 nmol final yield for 200 nmol scale synthesis.

~16 nmol final yield for 1 umol scale synthesis

~32 nmol final yield for 2 umol scale synthesis

~160 nmol final yield for 10 umol scale synthesis

~240 nmol final yield for 15 umol scale synthesis

TXRed-616 NHS is Sulforhodamine 101 acid chloride, a red-purple fluorescent dye used for labeling oligonucleotides.

TXRed-616 NHS has an absorbance maximum of 582 nm and an emission maximum of 600 nm. TXRed-616 NHS can be used in real-time PCR applications as a reporter moiety in TaqMan probes (1), Scorpion primers (2) and Molecular Beacons (3). For such probes, TXRed-616 NHS is most commonly paired with the dark quencher BHQ-2, as the two have excellent spectral overlap.

TXRed-616 NHS can be used to label DNA oligos for use as hybridization probes in a variety of in vivo and in vitro research or diagnostic applications, as well as for structure-function studies of DNA, RNA, and protein-oligonucleotide complexes.

Oligos labeled with TXRed-616 NHS at the 5'-end can be used as PCR and DNA sequencing primers to generate fluorescently-labeled PCR, sequencing or genetic analysis (AFLP or microsatellite) products.

TXRed-616 currently is produced in the form of an NHS ester, oligos first must be synthesized with an Amino Linker modification (either at the ends or internally). The TXRed-616 NHS is then manually attached to the oligo through the amino group in a separate reaction post-synthesis. **References**

1. Livak, K.J., Flood, S.J.A., Marmaro, J., Giusti, W., Deetz, K. Oligonucleotides with fluorescent dyes at opposite ends provide a quenched probe system useful for detecting PCR product and nucleic acid hybridization. *PCR Methods Appl.* (1995), **4**: 1-6.
2. Thelwell, N., Millington, S., Solinas, A., Booth, J., Brown, T. Mode of action and application of Scorpion primers to mutation detection. *Nucleic Acids Res.* (2000), **28**: 3752-3761.
3. Tyagi, S., Kramer, F.R. Molecular beacons: probes that fluoresce upon hybridization. *Nat. Biotechnol.* (1996), **14**: 303-308.