Product Specifications

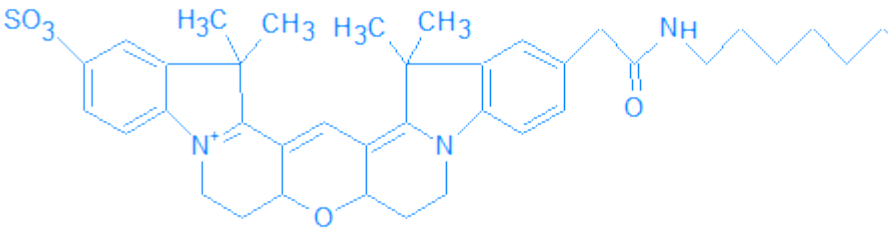
Custom Oligo Synthesis, antisense oligos, RNA oligos, chimeric oligos, Fluorescent dyes, Affinity Ligands, Spacers & Linkers, Duplex Stabilizers, Minor bases, labeled oligos, Molecular Beacons, siRNA, phosphonates Locked Nucleic Acids (LNA); 2′-5′ linked Oligos

Oligo Modifications

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

Cy3B-N

Category	Fluorescent Dyes
Modification Code	Cy3B-N
Reference Catalog Number	26-6907
5 Prime	Y
3 Prime	Y
Internal	Y
Molecular Weight(mw)	678



5'-Amino Linker C
[26-6418-XX]

5'-Cy3B NHS Ester
[26-6907-XX]

Click here for a list of fluorophores.

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 of Post Synthesis NHS, Maleimide & Click Ligand Conjugation* Oligo Scale of Synthesis Yield, nmols 50 nmol 2 nmol 200 nmol 5 nmol 1 umol 16 nmol 2 umol 30 nmol 5 umol 75 nmol 10 umol 150 nmol 15 umol 225 nmol * The yield will be lower for oligos longer than 50mer. Click here for yield table of long oligos. * Click here for RNA Oligos scale of synthesis and yield. **NHS Ligand conjugation** requires a primary amino group. Gene Link offers a wide selection of amino modifications for 5', 3' and internal sites. Click here for a list of conjugation chemistry modifications. **Maleimide Ligand conjugation** requires a thiol group. Gene Link offers a wide selection of thiol modifications for 5', 3' and internal sites.

Click here for a list of conjugation chemistry modifications. **Click Chemistry Ligand conjugation** requires a corresponding Click modification; examples Alkyne:Azide, Azide:DBCO, BCN:Azide, BCN: TCO:Tetrazine. Gene Link offers a wide selection of click modifications for 5', 3' and internal sites. Click here for a list of click chemistry modifications.

Cyanine 3B (Cy3B) is an orange fluorescent dye that belongs to the Cyanine family of synthetic polymethine dyes. Cy3B is reactive, water-soluble, has an absorbance maximum of 559 nm and an emission maximum of 570 nm. It is available as an NHS ester, and is used to fluorescently label oligonucleotides at either the 5' or 3' end, or internally. Cyanine dyes normally are capable of cis/trans isomerization around the polymethine, which can lead to loss of fluorescence after excitation, and weaker signal. By contrast, Cy3B is conformationally locked, the dye is not subject to photo-isomerization and improved fluorescent properties (1,2). Consequently, Cy3B is both extremely bright and extremely stable. Cy3B can be used to substitute in any oligonucleotide-based application suitable for Cy3, such as TaqMan probes, Scorpion primers, Molecular Beacons, or Fluorescent In-Situ Hybridization. Like Cy3, Cy3B is most commonly paired with the dark quencher BHQ-2, as the two have excellent spectral overlap. **References**

1. Cooper, M., Ebner, A., Briggs, M., Burrows, M., Gardner, N., Richardson, R., West, R. Cy3B: improving the performance of cyanine dyes.*J. Fluoresc.* (2004), **14**: 1145-150.
2. Hall, L.M., Gerowska, M., Brown, T. A highly fluorescent DNA toolkit: synthesis and properties of oligonucleotides containing new Cy3, Cy5, and Cy3B monomers. *Nucleic Acids Res.* (2012), **40**: e108.