



## Product Specifications

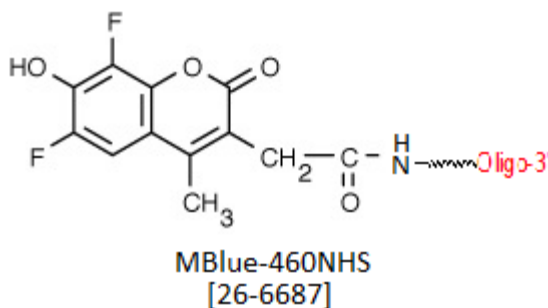
Custom Oligo Synthesis, antisense oligos, RNA oligos, chimeric oligos, Fluorescent dyes, Affinity Ligands, Spacers & Linkers, Duplex Stabilizers, Minor bases, labeled oligos, Molecular Beacons, siRNA, phosphonates Locked Nucleic Acids (LNA); 2'-5' linked Oligos

## Oligo Modifications

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

### MarBlue-460 NHS

Category	Fluorescent Dyes
Modification Code	MarBI-460-N
Reference Catalog Number	26-6687
5 Prime	Y
3 Prime	Y
Internal	Y
Molecular Weight(mw)	284.22



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

MBlue-460 NHS is 6,8-Difluoro-7-hydroxy-4-methylcoumarin NHS Ester exhibiting bright blue fluorescence emission near 460 nm is optimally excited by the intense 365 nm spectra line of the mercury-arc lamp and detect optimally with DAPI optical filter sets. Because the pKa value of 6,8-Difluoro-7-hydroxy-4-methylcoumarin derivatives are 2-3 log units lower compared to those of the corresponding 7-hydroxycoumarin conjugates, 6,8-Difluoro-7-hydroxy-4-methylcoumarin conjugates are strongly fluorescent even at neutral pH.

MBlue-460 is an NHS and is available as a fluorescent dye that can be conjugated to an oligo, either RNA or DNA. This is a post synthesis conjugation to a primary amino group. The amino group can be placed at the 5' and 3' and for internal positions an amino modified base is used, e.g Amino dT C6

MBlue-460 can be used to create blue-fluorescent bioconjugates. Based on the 6,8-difluoro-7-hydroxycoumarin fluorophore, dye exhibits bright blue fluorescence emission near 460 nm and is optimally excited by the intense 365 nm spectra line of the mercury-arc lamp.