



Product Specifications

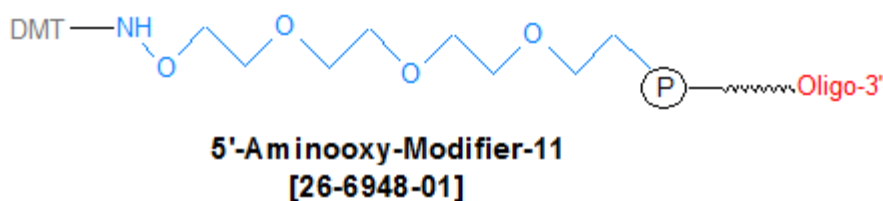
Custom Oligo Synthesis, antisense oligos, RNA oligos, chimeric oligos, Fluorescent dyes, Affinity Ligands, Spacers & Linkers, Duplex Stabilizers, Minor bases, labeled oligos, Molecular Beacons, siRNA, phosphonates Locked Nucleic Acids (LNA); 2'-5' linked Oligos

Oligo Modifications

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

Aminoxy-Modifier-11

Category	Conjugation Chemistry
Modification Code	AmOx
Reference Catalog Number	26-6948
5 Prime	Y
3 Prime	N
Internal	N
Molecular Weight(mw)	271.21



Oligos synthesized with Aminoxy Modifier 11 is supplied with 5'-DMT group to be removed at the time of reaction and facilitate reaction with aldehyde and ketones. See protocol below.

The 5'-AminoOxy-Modifier 11 contains the tetraethylene glycol linkage for improved solubility and minimizes the effects on hybridization of the oligo. Aminoxy modifiers can be used in hemoselective conjugation reactions with aldehydes and ketones to form stable oximes. The oxime formed from the reaction of these alkyloxyamines creates a stable covalent bond that is compatible with standard oligonucleotide deprotection conditions. Oxime covalent bonds are a more stable than the imine formed by the conjugation of amines with aldehydes, which require subsequent reduction to secondary amines.

Solution Phase Conjugation Solution-phase with direct-conjugation to an aldehyde or ketone provides the best results. Synthesize the oligo DMT-ON and complete the deprotection. After drying, complete the conjugation in 80% acetic acid to simultaneously remove the DMT group and catalyze the oxime formation.

Solid Phase Conjugation The aminoxy conjugation can also be performed on the column after removal of the 5'-DMT group, provided the label is stable to the subsequent deprotection conditions. If the oligo will not be conjugated immediately, retain the DMT protecting group and remove with 3% TCA in DCM just prior to the conjugation.

Protocol: Conjugation reaction of 5' aminoxy modifier 11 oligo with aldehyde

Gene Link provides the oligo in a dried lyophilized form. The 5' aminoxy modifier 11 oligo is provided in a protected state with a DMT group at the 5' end. This is removed prior to the conjugation reaction with aldehyde by following the protocol below.

1. Suspend lyophilized oligo in water or in a concentration and volume as desired. An aliquot can be used for the conjugation reaction protocol.
2. Add 10 equivalents of aldehyde in a suitable solvent. Example. Total volume of 300 uL.
3. Add 100 uL of acetic acid. Vortex.
4. Incubate for 1 hour at room temperature.
5. Desalt and concentrate by ethanol precipitation protocol below or follow other purification protocol.
5. Add 50 uL of 3M Sodium Acetate and 1 mL of absolute ethanol.
6. Incubate at -20 C for 20 minutes.
7. Centrifuge at 10K rpm for 5 minutes.

8. Decant ethanol carefully so as not to dislodge the oligo pellet.
9. Dry pellet at room temperature.