# Product Specifications

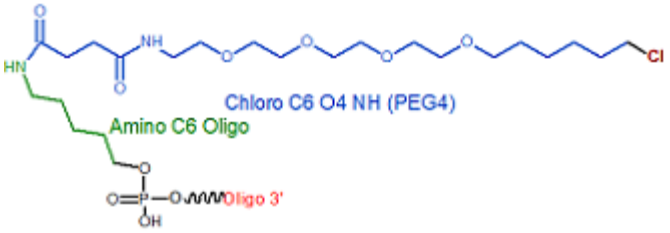
Custom Oligo Synthesis, antisense oligos, RNA oligos, chimeric oligos, Fluorescent dyes, Affinity Ligands, Spacers & Linkers, Duplex Stabilizers, Minor bases, labeled oligos, Molecular Beacons, siRNA, phosphonates Locked Nucleic Acids (LNA); 2′-5′ linked Oligos

## Oligo Modifications

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

## Halo Chloro Tag C6 PEG4 NHS

| | |
|---|---|
| Category | Others |
| Modification Code | Halo-Cl-PEG4-N |
| Reference Catalog Number | 26-6455 |
| 5 Prime | Y |
| 3 Prime | Y |
| Internal | Y |
| Molecular Weight(mw) | 394.91 |




Halo Chloro C6 O4 NH PEG4 C6 conjugated oligo
[26-6455-XX]

Halo Chloro Tag C6 PEG4 oligo conjugation is performed post synthesis of an oligo utilizing an amino group at the site for Halo ligand conjugation. 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.

**Halotag Protein Oligo Conjugation**

The strategy of small-molecule fluorescent labeling of genetically encoded proteins has become a popular alternative to GFP labeling.

Among the most widely used approaches is the HaloTag method developed by Promega, which utilizes a bacterial haloalkane dehalogenase. The enzyme removes halides from aliphatic hydrocarbons by a nucleophilic displacement mechanism to form a covalent ester linkage between the haloalkane and Asp106 in the enzyme. In the wild type haloalkane dehalogenase, the ester is quickly hydrolyzed by histidine 272 in the catalytic active site. However, by mutating the histidine to phenylalanine, the HaloTag variant renders the covalent ester bond stable toward hydrolysis.

**Further Reading and Protocols** HaloTag Ligand Building Blocks.

Halotag Protein Conjugation

3. 1. Los, G. V.; Encell, L. P.; McDougall, M. G.; Hartzell, D. D.; Karassina, N.; Zimprich, C.; Wood, M. G.; Learish, R.; Ohana, R. F.; Urh, M.; Simpson, D.; Mendez, J.; Zimmerman, K.; Otto, P.; Vidugiris, G.; Zhu, J.; Darzins, A.; Klaubert, D. H.; Bulleit, R. F.; Wood, K. V. HaloTag: a novel protein labeling technology for cell imaging and protein analysis. ACS Chem. Biol., 2008, 3, 373-382

4. Vijay Singh, Shenliang Wang, and Eric T. Kool, Genetically Encoded Multispectral Labeling of Proteins with Polyfluorophores on a DNA Backbone. J. Am. Chem. Soc., 2013, 16, 6184-6191.