# Halo Chloro Tag C6 PEG4 NHS

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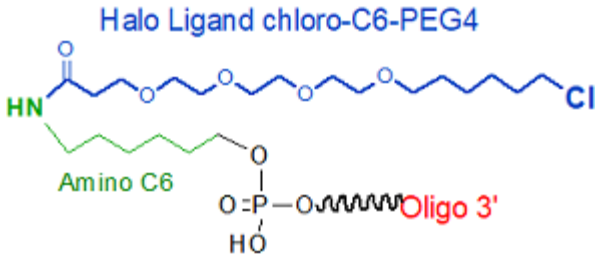
|---|---|
| Category | Others |
| Modification Code | Halo-Cl-PEG4-N |
| Reference Catalog Number | 26-6455 |
| 5 Prime | Y |
| 3 Prime | Y |
| Internal | Y |
| Molecular Weight(mw) | 308.8 |




**Halo Ligand 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** 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

**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.

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.

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