Product Specifications

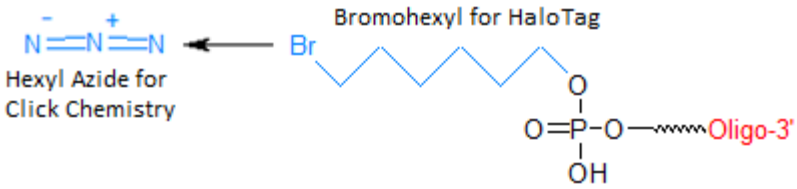
Custom Oligo Synthesis, antisense oligos, RNA oligos, chimeric oligos, Fluorescent dyes, Affinity Ligands, Spacers & Linkers, Duplex Stabilizers, Minor bases, labeled oligos, Molecular Beacons, siRNA, phosphonates Locked Nucleic Acids (LNA); 2′-5′ linked Oligos

Oligo Modifications

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

Halotag Conjugation Bromohexyl (5')

Category	Click Chemistry
Modification Code	BrHexyl
Reference Catalog Number	26-6923
5 Prime	Y
3 Prime	N
Internal	N
Molecular Weight(mw)	205.15



5'-Bromohexyl Modifier
[26-6923-XX]

Bromohexyl modification is available as an Azide for Click Chemistry see Azide C6 [26-6718] and as bromohexyl for Halotag protein conjugation. For Halotag protein conjugation a Spacer 18 modification should be added internally next to the 5'-Bromohexyl. Additional charge applies for Spacer 18 modification. Bromohexyl modification version has a setup charge of $250.00 for mild synthesis reagents per order.

Halotag Protein Oligo Conjugation Click here for a validated Glen Research Protocol for Oligo Conjugation to Halo Tagged Protein

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.

Oligonucleotides should be synthesized with Bromohexyl at the 5' end with an adjacent internal Spacer 18 followed by the sequence of choice to be conjugated. Please note that for our online ordering system the addition of Spacer 18 modification is not automatic and should be added as an internal modification. For fluorescent detection the oligo can be labelled at the 3' end with a fluorophore.

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.