

ssH-Linker

New MMT protected amino linker



Phosphoramidite technology is ideally suited for the modification of synthetic oligonucleotides with covalently attached linkers. SAFC Proligo Reagents™ provides ready to use linkers for DNA/RNA synthesis machines as β -cyanoethyl phosphoramidites.

Amino linkers are particularly suitable for the conjugation of biotin, fluorescent dyes or other modifiers and reporter groups to the 5' end of oligonucleotides, or for the attachment of oligonucleotides to microarrays.

In addition to established linkers SAFC Proligo Reagents™ offers the next generation of MMT*-protected amino linker :

ssH-Linker

Key Features

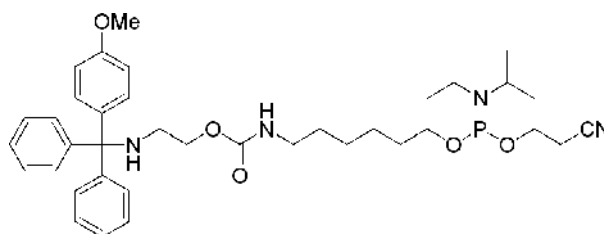
- Advantages over conventional amino linkers
 - Deprotection of the amino-group under exceptionally mild conditions which avoid depurination side reaction
 - Very high labelling efficiency
 - Better trityl-on purification efficiency
- General features
 - Excellent coupling efficiency
 - High solubility in acetonitrile
 - Coupling through standard synthesis protocols, identical to the coupling of DNA monomer phosphoramidites
 - Used with standard deblock-, activator-, oxidizer- and capping-solutions
 - Features a lipophilic MMT-group to support the purification of the oligonucleotide synthesis product with reversed-phase cartridges or by HPLC
 - Permits measurement of the coupling efficiency through colorimetric MMT-assays

* monomethoxytrityl

ssH-Linker is covered by the patents / patent applications JP 2005-217026 and PCT/JP2005/021135.

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ssH-Linker comprises an internal carbamate group, which is attached to the MMT-protected amino group via a short spacer. The carbamate moiety facilitates the cleavage of the MMT-group under mildly acidic conditions while increasing the stability of the MMT-group during the deprotection of the oligonucleotide with ammonia. The carbamate group also enhances the reactivity of the amino group through a neighbour group effect, and thereby accelerates conjugations to amino-reactive modifiers and reporters.

The MMT-group of ssH-linker serves as an excellent purification handle after the oligonucleotide synthesis in trityl-on mode, similar to the DMT-group of conventional oligonucleotides. The MMT-group is cleaved under very mild conditions in aqueous acetic acid (10% glacial acetic acid in water, 20 min. room temp.). Alternatively, the MMT-group can be cleaved on the synthesis instrument with acidic deblock solution to enable on-support labeling protocols*.

Product List

Compatible with Expedite and Polygen Instruments

| Product No. | Description | Quantity |
|-------------|-------------|-----------|
| M010982-01 | ssH-Linker | 1 x 0.25g |

Compatible with ABI® Instruments

| Product No. | Description | Quantity |
|-------------|-------------|-----------|
| M010932-01 | ssH-Linker | 1 x 0.25g |

Other packaging options are available upon request.

*During oligonucleotide deprotection in ammonia the amino group should either be MMT-protected or conjugated to a reporter group. Unprotected amino groups will react with the internal carbamate linkage under deprotection conditions resulting in a derivative which is unreactive to common labelling reagents.