

## Modified oligonucleotides

Besides unmodified oligonucleotides, we synthesize oligonucleotides containing modifications. The most common modifications are those at the ends of the chain – at 3' or 5' or combined.

There are many other possibilities of modifications: A modifying molecule can be inserted into the chain; nucleotides in the chain can be replaced by their analogues; spacers of various kinds and lengths as well as functional groups or molecules

can be inserted into the sequence of the oligonucleotide. Phosphodiester bonds can be modified as well, at all sites of the chain or selectively.

We recommend that you consult us regarding less common modifications or their combinations prior to their ordering as many limitations of synthesis or purification of final product may occur.

## Fluorophores



Fluorophore	5'	internal	3'
6'FAM	1108	x	1138
Fluorescein	1109	✓	1133
Fluorescein- dT	✓	✓	✓
TET	1114	x	x
JOE	✓	x	x
HEX	1111	x	x
Yakima Yellow®	✓	x	✓
Cy3	1103	✓	x
Dy547	✓	x	x
CFR 610	1119	x	x
ROX	✓	x	✓
Cy 3,5	✓	✓	x
CFR 635	1120	x	x
Cy5	1104	x	x
Dy 647	✓	x	x

## ATTO Fluorophores

ATTO Fluorophore	5'	internal	3'
ATTO 465	1217-5	✓	✓
ATTO 550	1218-5	✓	✓
ATTO 647	1219-5	✓	✓

The whole list of ATTO fluorophores can be found on: <https://www.generi-biotech.com/products/atto-dyes>

The table show catalogue numbers of modifications

- ✓ the modification has a limitation and can be provided only after consultation; we can give a price quotation after you select your specific sequence to be modified and its scale
- x unavailable combination



## Quenchers

Quencher	5'	internal	3'
BHQ1	✓	✓	✓
BHQ2	✓	✓	✓
BHQ3	x	x	✓
BBQ 650	✓	x	✓
Dabcyl	✓	x	✓
Eclipse	✓	x	✓

## Other modifications

Amino	5'	internal	3'
Amino C3sp	✓	x	x
Amino C6sp	1101	x	x
Amino C7sp	x	x	1135
Amino C6sp-dA	✓	✓	x
Amino C6sp-dC	✓	✓	x
Amino N2 C6sp-dG	✓	✓	x
Amino C6sp-dT	✓	✓	x
8-Amino-dA	✓	✓	x
8-Amino-dG	✓	✓	x

Biotin	5'	internal	3'
Biotin	1102	x	x
Biotin-dT	✓	✓	x
Biotin-TEG	x	x	1130

Spacer	5'	internal	3'
Spacer C3	✓	✓	1131
Spacer 9	✓	✓	x
Spacer 18	✓	✓	x
Spacer C12	✓	✓	x
D-spacer	✓	✓	x
PC-spacer	✓	✓	x

Universal bases	5'	internal	3'
2'-DeoxyNebularine	✓	✓	x
Inosin	1100	1100	1100

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Cross-link bases	5'	internal	3'
5-Br-dC	✓	✓	x
5-Br-dU	✓	✓	✓
5-F-dU	✓	✓	x
5-I-dC	✓	✓	x
5-I-dU	✓	✓	x
DNP	✓	x	x

Modified bases	5'	internal	3'
3-Deaza-dA	✓	✓	x
5-(1-Propynyl)-dC (pdC)	✓	✓	x
5-(1-Propynyl)-dU (pdU)	✓	✓	x
5-Me-dC	1168	1168	1168
5'-OMe-dT	✓	x	x
7-Deaza-dA	✓	✓	x
7-Deaza-8-aza-dA	✓	✓	x
7-Deaza-8-aza-dG	✓	✓	x
8-Br-dA	✓	✓	x
8-Br-dG	✓	✓	x
8-Oxo-dA	✓	✓	x
8-Oxo-dG	✓	✓	x
C8-Alkyne-dC	✓	✓	x
C8-Alkyne-dT	✓	✓	x
N4-Et-dC	✓	✓	x
N6-Me-dA	✓	✓	x

Modified backbone	5'	internal	3'
2'OMe-RNA	✓	✓	✓
2'F-RNA	✓	✓	x
Phosphorothioate	x	1160	x

Phosphorylation	5'	internal	3'
Phosphate	1110	x	1139

Thiol modifications	5'	internal	3'
Thiol SH	1115	x	1137
Thiol S-S	1106	x	x

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## Other modifications

Symmetrical branching	5'	internal	3'
5-Me-dC-Brancher	✓	✓	x
Symetric Doubler	✓	✓	x

Other	5'	internal	3'
2'3'-ddC	x	x	✓
dU	1169	1169	1169
Hexynyl	✓	x	x
Cholesterol	✓	x	1134
Spermine	✓	✓	x
Trimethoxystilben	✓	x	x
Uaq	x	x	✓
Pyren	✓	x	x

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