

CUSTOM OLIGO-PEPTIDE

Bioconjugation

Smart Way to Transport

Oligonucleotide conjugates with peptides and peptide-like molecules have a wide application in molecular biology, as it gives an opportunity to selectively influence gene expression in aim for correcting biochemical processes.

Several cross linking strategies are employed in our laboratory for the preparation of oligonucleotide conjugates with peptides or other compounds containing functional groups. The N- or C-terminus of a peptide is covalently linked to the 3' or 5' terminus of an oligonucleotide, resulting in a linear peptide oligonucleotide-conjugate.

Advantages

- ▶ Use cellular translocation signals
- ▶ Enable targeted transport to cellular compartments
- ▶ Facilitate transport of nucleic acids through cell membranes

Applications

- ▶ Antisense/siRNA for gene silencing experiments
- ▶ in-situ hybridization
- ▶ Targeted direction of nucleic acids into cells

Standard service consists of

| Requirements | Peptide | Oligonucleotide |
|---------------|--------------------------|--|
| Length | 5-15 amino acids | 8-30 DNA, RNA, PNA bases |
| Purity | >95% | HPLC purified |
| Coupling via | N- or C-terminal Cys | 3'- or 5'-terminal amino modified |
| Restrictions | only one Cys per peptide | none |
| Modifications | none | Other possible combinations: · PTO or LNA bases · Additional dye modification such as Fluorescein or CY3 |

Quantity

| Conjugate yield in ODU | 1 ODU | 2 ODU | 3 ODU | 5 ODU |
|-------------------------------------|-------|-------|-------|-------|
| Optical density at $\lambda=260$ nm | | | | |

Additional Services

- ▶ Coupling of LNA to peptides
- ▶ Coupling of siRNA to peptides
- ▶ Coupling of single amino acid to oligonucleotides
- ▶ Coupling of peptide to oligonucleotides
- ▶ Other heterobifunctional conjugations

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