

PNA мономеры

Технические характеристики

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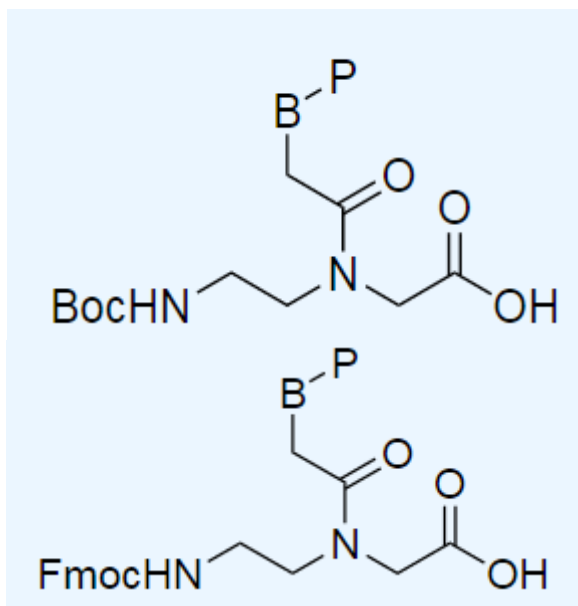
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PNA monomers play a crucial role in the synthesis of PNA (Peptide Nucleic Acid) oligomers. These oligomers are synthetic molecules that mimic DNA but offer unique properties for various applications. Here's how PNA monomers are applied in oligo synthesis:

Building Blocks:

- PNA monomers act as the building blocks for PNA oligos. Each monomer consists of a nucleobase unit (similar to those in DNA/RNA) attached to a backbone containing a peptide linkage.
- The specific side groups on the monomer determine the nucleobase identity (e.g., Adenine, Thymine, Cytosine, Guanine), allowing for sequence-specific PNA synthesis.

Solid-Phase Synthesis:

PNA oligos are typically synthesized using a solid-phase approach similar to DNA synthesis. Here's a simplified overview:

1. A starting linker molecule is attached to a solid support (resin bead).
2. PNA monomers are introduced one by one in a specific order dictated by the desired PNA sequence.
3. Each monomer addition involves deprotection (removing a protective group) and coupling (attaching the new monomer) steps.
4. After completing the sequence, the final PNA oligo is cleaved from the resin and deprotected to obtain the final product.

Advantages of PNA Monomers:

PNA monomers offer several advantages over DNA/RNA monomers in oligo synthesis:

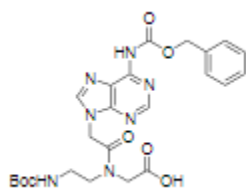
- **Increased Binding Affinity:** PNAs bind more strongly to complementary DNA sequences compared to DNA itself. This allows for shorter PNA probes for specific target detection.
- **Enhanced Stability:** PNA oligos exhibit greater stability under harsh conditions like high temperatures and extreme pH, making them more durable for certain applications.

Applications of PNA Oligos:

PNA oligos find applications in various fields due to their unique properties:

- **Molecular Diagnostics:** PNA probes can be used for highly specific detection of DNA sequences in diseases or genetic analysis.
- **Antisense Therapy:** PNAs can target and block specific mRNA molecules, potentially interfering with disease-causing gene expression.
- **Nanotechnology:** PNAs can be used to construct nanostructures for various purposes like biosensing or drug delivery.

In summary, PNA monomers are essential building blocks for synthesizing PNA oligos. These oligos offer advantages like strong binding affinity and stability, making them valuable tools in molecular diagnostics, antisense therapy, and nanotechnology.



Boc-PNA-A(Z)-OH

N-((N6-(benzyloxycarbonyl)adenin-9-yl)acetyl)-N-(2-Boc-aminoethyl)glycine

Catalog No.

ON-263

CAS No.

149376-69-2

Molecular Formula

$C_{24}H_{29}N_7O_7$

Molecular Weight

527.53

Appearance

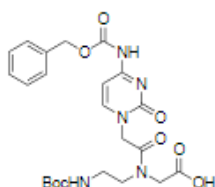
White, off-white to faint yellow powder, free from visible foreign matter

Purity

HPLC $\geq$ 97.0%

Storage

2-8°C, in tightly closed container, protected from light and humidity.



Boc-PNA-C(Z)-OH

N-((N4-(benzyloxycarbonyl)cytosine-9-yl)acetyl)-N-(2-Boc-aminoethyl)glycine

Catalog No.

ON-264

CAS No.

144564-94-3

Molecular Formula

$C_{23}H_{29}N_5O_8$

Molecular Weight

503.51

Appearance

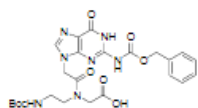
White, off-white to faint yellow powder, free from visible foreign matter

Purity

HPLC $\geq$ 97.0%

Storage

2-8°C, in tightly closed container, protected from light and humidity.



Boc-PNA-G(Z)-OH

N-((N2-(benzyloxycarbonyl)guanine-9-yl)acetyl)-N-(2-Boc-aminoethyl)glycine

Catalog No.

ON-265

CAS No.

169287-77-8

Molecular Formula

C₂₄H₂₉N₇O₈

Molecular Weight

543.53

Appearance

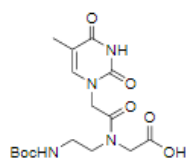
White, off-white to faint yellow powder, free from visible foreign matter

Purity

HPLC≥97.0%

Storage

2-8°C, in tightly closed container, protected from light and humidity.



Boc-PNA-T-OH

N-[2-(Boc-amino)ethyl]-N-(thymine-1-ylacetyl)glycine

Catalog No.

ON-266

CAS No.

139166-80-6

Molecular Formula

C₁₆H₂₄N₄O₇

Molecular Weight

384.38

Appearance

White, off-white to faint yellow powder, free from visible foreign matter

Purity

HPLC≥97.0%

Storage

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