

LNA™ - LOCK NUCLEIC ACID

Oligonucleotide

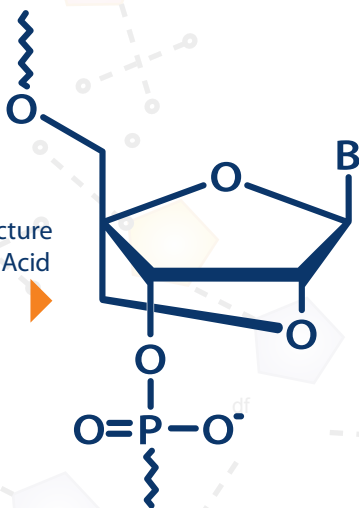
Superior Hybridization - Enhanced Biostability

What is a Locked Nucleic Acid?

Locked Nucleic Acids (LNA™) are a class of nucleic acid analogues in which the ribose ring is "locked" by a methylene bridge connecting the 2'-O atom with the 4'-C atom (see structure below). LNA™ nucleosides contain the six common nucleobases (T, C, G, A, U and mC) that appear in DNA and RNA, thus are able to form base-pairs according to standard Watson-Crick base pairing rules. Oligonucleotides incorporating LNA™ have increased thermal stability and improved discriminative power with respect to their nucleic acid targets. LNA™ can be mixed with DNA, RNA and other nucleic acid analogs using standard phosphoramidite synthesis chemistry. LNA™ oligonucleotides can easily be labeled with standard oligonucleotide tags such as DIG, fluorescent dyes, biotin, amino-linkers, etc. Thus a very high degree of freedom is available in the design of primers and probes.

LNA™ oligonucleotides can be designed to enhance a wide variety of genomic applications and technologies that rely upon the use of oligonucleotides such as:

The chemical structure of Locked Nucleic Acid



- ▶ Splice variant detection
- ▶ Comparative Genome Hybridization (CGH)
- ▶ Allele specific PCR
- ▶ Cytogenetics
- ▶ Gene repair/exon skipping
- ▶ mRNA isolation and more...

LNA Synthesis at BSI

BSI offers synthesis of LNAs under license from Exiqon A/S (Denmark). LNA can be incorporated at 5' or internally, 3' placement of LNAs is not currently available. All synthesis of LNA oligonucleotides include:

Standard Services:

- ▶ Deprotected and desalted
- ▶ Purified by PAGE, RP-HPLC upon request
- ▶ Lyophilized format
- ▶ Deliver within 3-5 working days
- ▶ QC by PAGE, HPLC or mass spectrometry

Additional Services:

- ▶ Chimeric synthesis: LNA-DNA, LNA-RNA, PTOs /PS mix linkages
- ▶ Modifications and labelings
- ▶ Fluorescent probes for Real-Time qPCR
- ▶ Large scale ASR oligos

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