



## Product Specifications

Custom Oligo Synthesis, antisense oligos, RNA oligos, chimeric oligos, Fluorescent dyes, Affinity Ligands, Spacers & Linkers, Duplex Stabilizers, Minor bases, labeled oligos, Molecular Beacons, siRNA, phosphonates Locked Nucleic Acids (LNA); 2'-5' linked Oligos

## Oligo Modifications

For research use only. Not for use in diagnostic procedures for clinical purposes.

### MGB-5' CDPI3

Category	Duplex Stability
Modification Code	MGB-CDPI3-5
Reference Catalog Number	26-6457
5 Prime	Y
3 Prime	N
Internal	N
Molecular Weight(mw)	872.96

#### **MGB Probe Design: 5'-Fluorophore** 5'-[Fluorophore]...probe sequence...[internal quencher][MGB]-3'

In the 5'-Fluorophore MGB probe design an internal quencher for example BHQ1-dT or BHQ2-dT is placed before the MGB at the 3' end.

#### **MGB Probe Design: 3'-Fluorophore** 5'-[MGB] [internal quencher]...probe sequence...[Fluorophore]-3'

In the 3'-Fluorophore MGB probe design an internal quencher for example BHQ1-dT or BHQ2-dT is placed after the MGB at the 5' end.

**MGB Probe Pricing** MGB probe pricing is the total of the price for [MGB] + [internal quencher]+ ..probe sequence +[Fluorophore]-3'

The tripeptide of dihydropyrroloindole-carboxylate (CDPI3) is a minor groove binding (MGB) moiety derived from the natural product CC-1065 with strong DNA binding properties. Synthetic oligonucleotides with covalently-attached CDPI3 have enhanced DNA affinity and have improved the hybridization properties of sequence-specific DNA probes. Short CDPI3-oligonucleotides hybridize with single-stranded DNA to give more stable DNA duplexes than unmodified ODNs of similar length. CDPI3 MGB-oligonucleotide conjugates have been found to be useful in the following applications:

- Arrest of primer extension and PCR blockers
- Short and fluorogenic PCR primers
- Real-time PCR probes
- miRNA Inhibitors

The simplest approach to MGB probe design is to use an MGB support, add a quencher molecule as the first addition and complete the synthesis with a 5'-fluorophore. Alternatively, a fluorophore support could be used with the 5' terminus containing a quencher molecule followed by a final MGB addition at the 5' terminus.

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