ChemGenes CORPORATION

Key Products

- **Natural 2′-tBDSilyl Phosphoramidites**
  - · Standard: 2′-Si-A^{bz}, C^{ac}, G^{ibu}, U.
  - · Mild: 2′-Si-A^{ac}, C^{ac}, G^{ac}, U.
  - · Ultra-Mild: 2′-Si-A^{pac}, C^{pac}, G^{pac}, U.
- 2′-O-Methyl –RNA Synthesis
  2′-O-Methyl A,C,G & U Phosphoramidites
- 2′-Fluoro – RNA Synthesis
  2′-Fluoro U & C Phosphoramidites

Bulk Capabilities

Bulk quantities in Kilo grams available

Quality Assurance Highlights

- cGMP Laboratory practices in place
- Robust Quality Assurance Program has been implemented for the quality of amidites & supports.
- Extensive Quality Management in place
- Extensive Documentation & Records in place
- Production & In-Process Controls
- Laboratory Controls
- Choice source of GMP grade oligonucleotides

UnyLinker Universal Support

(Technology Licensed from Isis Pharmaceuticals)
CPG and Polystyrene supports
Bulk supports and pre-packed columns Available

Key Features:

- Fully compatible with standard phosphoramidite reagents and synthesis conditions
- Has standard DMT group and requires standard deblock solutions for oligonucleotide synthesis
- Coupling efficiency ≥ 99%
- Results in 3′ – OH oligonucleotides
- Clean standard succinate linkage and thus cleavage from support is quantitative during ammonia incubation

Non Cleavable Supports & Columns

- Non- Cleavable inert Supports & Columns
- Uniform Particle Size
- Long Chain Spacer on Rigid non-swellable Support
- Two particle sizes are available;
  15-20 um & 60-70 um

Key Applications:

- Affinity based chromatography for oligonucleotides, proteins, and other macromolecule.
- Design and construction of one bead one compound libraries by split synthesis method.
- For Combinatorial Libraries
- PCR amplification is possible with the support attached to oligonucleotides.
- Oligo Synthesis on bead bound oligonucleotides, have performed beyond expectations, Coupling ≥ 98% - 99% per step.

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RNA Synthesis-Reverse Direction

Phosphoramidites for Reverse RNA Synthesis

RNA synthesis in 5′»3′- direction

Coupling Efficiency approaching 99% makes this approach highly useful.

Key Applications :

- Highly efficient synthesis of synthetic RNA in the Reverse direction.
- Application in convenient introduction of Ligands, chromphores and modifications of Synthetic RNA at the 3′- End.
- Design of Sense Strand of SiRNA
- Challenging 3′ – Modifications of RNA

Structural Features :

The reverse RNA monomer phosphoramidites carry a 3′- DMT group, 2′-tBDsilyl (tBDSi) or 2′-triisopropylsilyloxymethoxy (TOM) and 5′- cyanoethylphosphoramidite (CED) group.

Quality Control :

- HPLC Purity of 98% and greater
- 31 P NMR purity from 98-100%
- Coupling Efficiency approaches 99% per step.

Patent Pending by ChemGenes Corp.

RNA Synthesis with TOM Phosphoramidites

TOM products are licensed from Qiagen Inc. for Therapeutic market

Key Advantages:

- Superior Quality RNA using 2′-O-TOM protection: No possibility of 2′-5′-linkage
- Perfected manufacturing process: prices comparable to TBDMS
- Higher Coupling Efficiency due to lower steric hindrance: Reduced Coupling Time (2-4 minutes)
- No base modification or M + 30 observed (extensive chemical Ionization mass analysis)

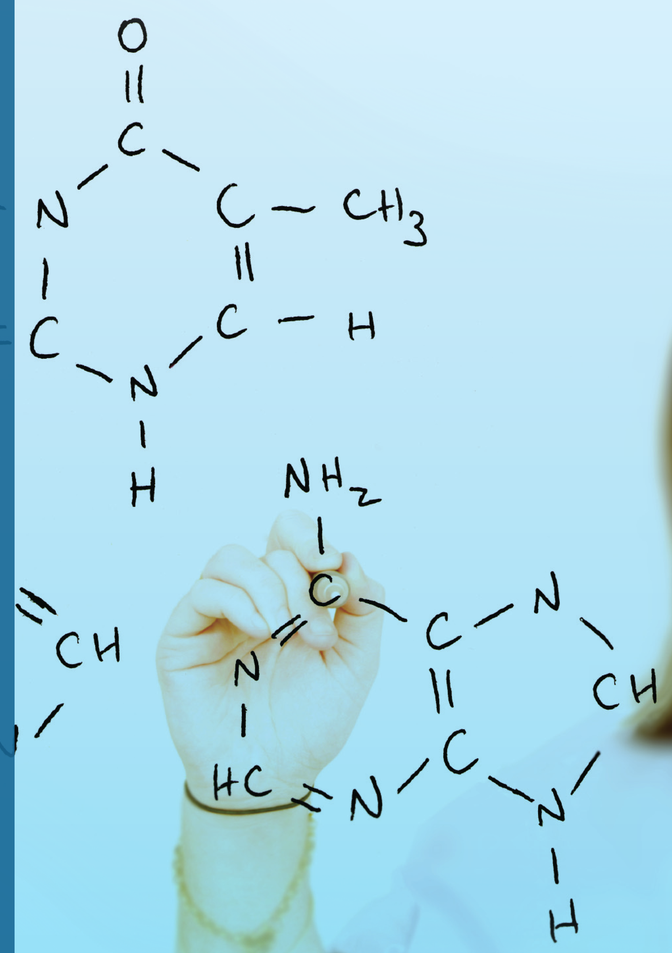
Quality Guaranteed:

- Purity Greater than 97% by HPLC
- 31 P NMR purity ranges from 98 -100%
- UV Spectral data to conform to highest
- 1 H NMR data to conform
- Coupling efficiency greater than 98% per step
- Ideal for Long Chain Oligos
- TOM Amidites Produced under GMP guidelines

Also Available:

Low to high loading CPG supports with TOM-monomer for uniform deprotection of RNA's.

Now Available Bulk Quantities Manufactured Under GMP Guidelines



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