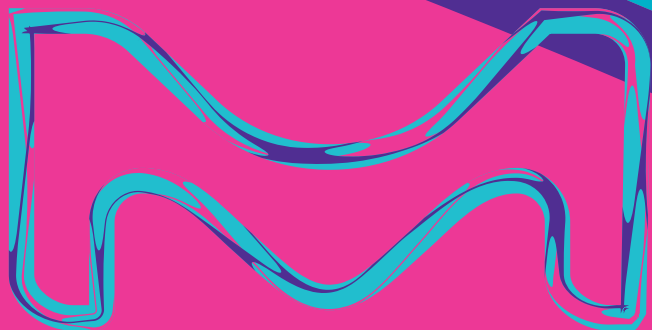


phosphoramidites and reagents

for Oligonucleotide Synthesis

Serving Your Needs across the Entire
Oligonucleotide Synthesis Workflow



Proligo[®] Reagents for Oligonucleotide Synthesis

Let us support your entire oligonucleotide production workflow, from synthesis, cleavage and deprotection through to desalting, purification and QC analysis. Many of our oligo synthesis columns and reagents are specifically configured to work with your synthesizer (ABI 3900, 39X, Expedite, MerMade, AKTA[®] and OligoPilot[®]) from R&D to production.

The Oligonucleotide Synthesis Cycle

We offer a comprehensive range of high-quality products and services for oligonucleotide synthesis:

- Our products span the synthesis workflow, from standard and specialty phosphoramidites, to solid supports, columns, linkers and liquid formulations.
- Products are available to fit directly on the instruments with specialized bottles, or in bulk packaging to feed larger scale processes.
- We offer custom manufacturing, packaging, and global distribution capabilities.

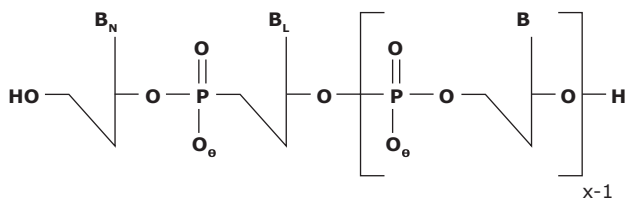
Use our technical and regulatory know-how, global quality standards, and supply chain expertise to help you:

- Improve efficiency
- Bring your products to market faster
- Optimize value

To view our products used in each stage of the synthesis cycle, visit SigmaAldrich.com/proligo

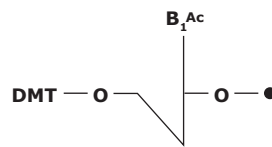
Finalized Synthesis

Cleavage and Deprotection after x cycle



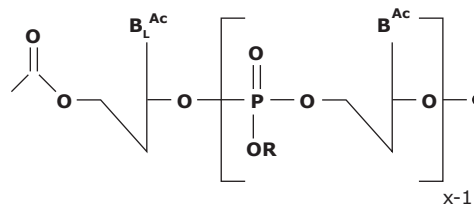
Start of Synthesis*:

CPG loaded with nucleoside



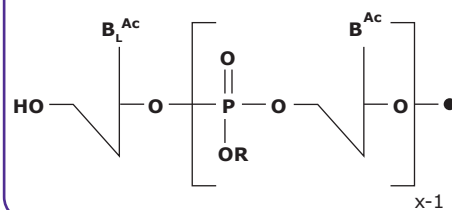
Capping 2

Cap A and B solution



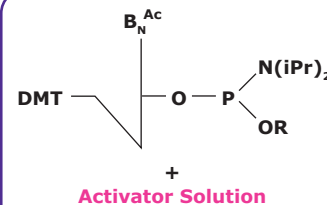
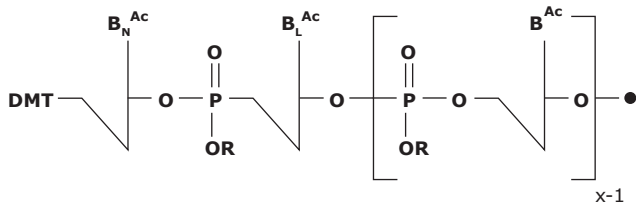
Detritylation

Deblock solution



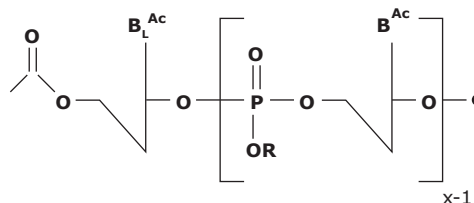
Oxidation

Oxidizer solution



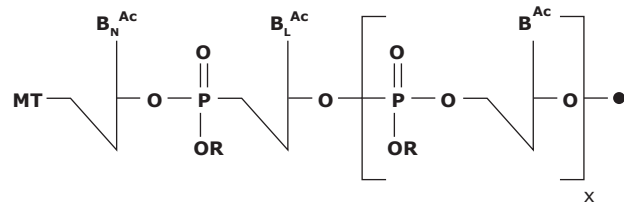
Capping 1

Cap A and B solution



Coupling

DNA/RNA Phosphoramidites Labels/Dyes/Linkers



Summary of solid-phase oligonucleotide synthesis cycle.

B* = Protected Base

L = Last Cycle

N = Actual New Cycle

X = Number of Cycle

* = B, is equivalent to BL in Cycle

Synthesis

Our complete product portfolio for solid-phase oligonucleotide synthesis is comprised of high-quality standard and specialty phosphoramidites, solid supports, columns, linkers and liquid formulations.

Raw Materials for Oligonucleotide Synthesis

- Controlled Pore Glass (CPG) in bulk or packed Columns for all major synthesizers
- DNA and RNA Phosphoramidites in standard and fast deprotection as well as custom solutions
- Linkers, Dyes & Labels
- Liquid reagents, from bottles to bulk, for detritylation, activation, coupling, oxidation and capping

Cleavage and Deprotection

Use our high-quality solvents and reagents for cleavage and deprotection to help you improve your yields and reduce unwanted side reactions.

- Ethylenediamine
- Methylamine
- Ammonium Hydroxide
- Tetrabutylammonium Bromide
- Hydrogen Fluoride Pyridine
- Triethylamine

Desalting and Purification

We can help with the removal of organic salts through a variety of methods, such as:

- Chromatography columns
- Nuclease-free molecular biology reagents
- Gel electrophoresis
- Organic solvents for extractions
- Ethanol for precipitation

Desalting and Purification

Oligonucleotides are best purified by different methods or a combination of techniques, depending on the intended use.

Analysis

Materials to analyze composition and purity.

HPLC

- Reversed Phase Columns
- Ion Exchange Columns
- High Purity Solvents

Analytical Consumables for:

- HPLC, UHPLC, LC-MS
- GC, headspace GC, GC-MS
- TLC, HPTLC
- Karl Fischer titration
- NMR
- UV-Vis
- FTIR

For more on analytical applications, visit [SigmaAldrich.com/brighter](https://www.sigmaaldrich.com/brighter)

A Complete Line of Solvents and Labware for Your Oligonucleotide Synthesis

Solvents

We have an expansive range of products, grades, and packaging options. Our state-of-the-art manufacturing capabilities provide reliable quality and lot-to-lot consistency. Products include:

- Acetone
- Dichloromethane
- Dimethylformamide
- Diethyl Ether
- Ethyl Acetate
- Methanol
- Tetrahydrofuran
- Acetonitrile
- Chloroform
- Dimethylsulfoxide
- Ethanol
- Hexane
- 2-Propanol
- Toluene

For more on solvents, visit [SigmaAldrich.com/solvents](https://www.sigmaaldrich.com/solvents)

Labware

Over 22,000 products from the most-recognized brands in the world. We carry all the products that your lab needs. Product categories specific to the oligonucleotide market include:

- PCR Supplies
- Centrifugation
- Cell Culture Supplies
- Microtiter/Microwell Plates
- Filtration
- Electrophoresis

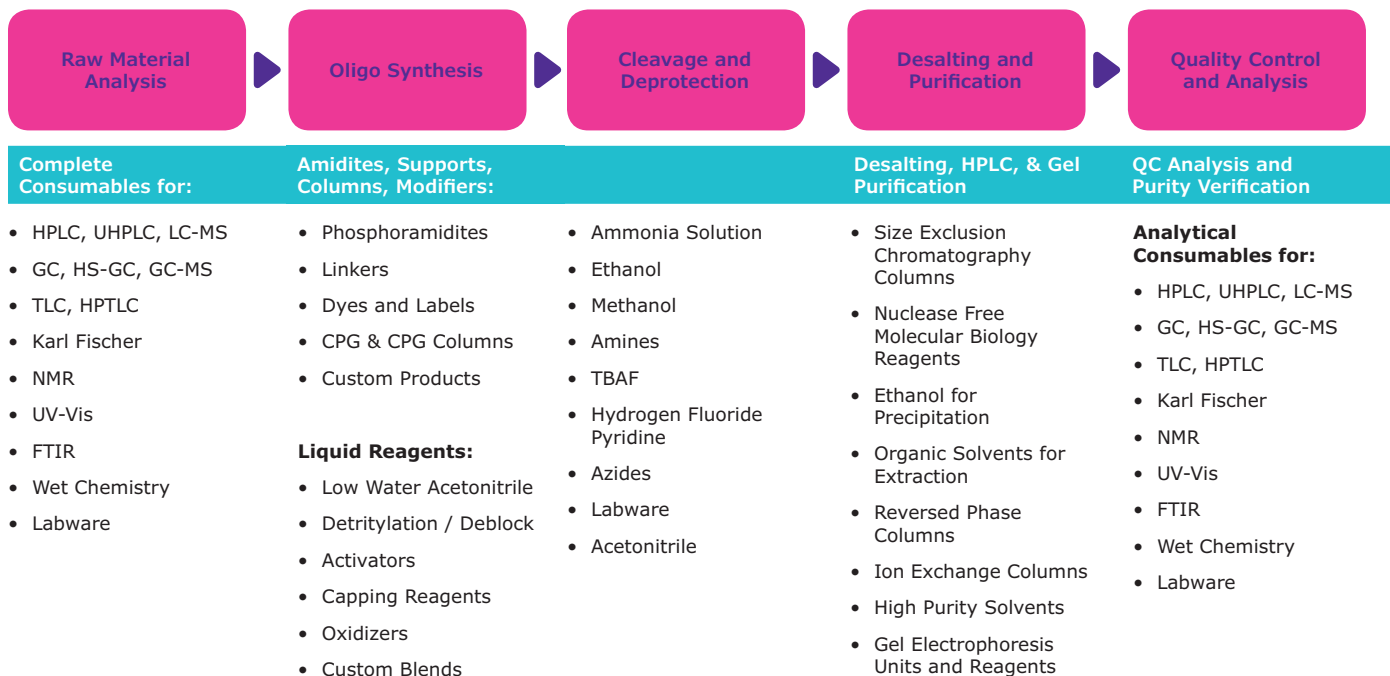
For more on labware, visit [SigmaAldrich.com/labware](https://www.sigmaaldrich.com/labware)



Your One-Stop-Shop for Lab Consumables

We are more than just your preferred supplier for products and services around the Oligonucleotide synthesis cycle, we can also support your entire workflow with our complete portfolio:

- Analytical products and tools for use in determining product composition and impurity profile
- Reagents and solvents for synthesis, purification and analytical purposes
- Labware from the most-recognized brands in the world



Lab Consumables Portfolio

Description	
Analytical Reagents and Equipment	
Reagents	Test Kits and Indicators
	Spectroscopy
	Derivatization
	Electrochem, Electrodes
	Chromatography
Electrochemistry, Electrodes, Sensors	
Titration and Karl Fischer Analysis	Buffers, Indicators, Volumetric Solutions
Lab Equipment	Syringes, Vials
Standards	Certified Reference Materials
	Physical Properties
	Chromatography and Spectroscopy
General Lab Equipment (Containers, Bottles)	
Genomics	Nucleosides, Substrates
Cell Culture	Reagents and Components
Biomolecules	
Proteins and Enzymes	
Chemical Synthesis	
Building Blocks	
Catalysts and Inorganics	
Synthetic Reagents	
Lab Equipment	
Corning Plastic and Glassware, Centrifuge tubes	
General Laboratory, Filtration	
PCR Supplies	
Centrifugation	
Cell Culture Supplies	
Microtiter/Microwell Plates	
Filtration	
Lab Essentials	
Labbasics	Inorganics Reagents
	Organics
	Acid/Bases
	Solvents
Biobasics	Buffers, Carbohydrates
	Molecular Biology Reagents, Nucleosides/Nucleotides
	Detergents

To place an order or receive technical assistance

Phone: **877-PROLIGO (776-5446)**
E-mail: **ProligoSupport@sial.com**

Order/Customer Service: **SigmaAldrich.com/order**
Technical Service: **SigmaAldrich.com/techservice**
Safety-related Information: **SigmaAldrich.com/safetycenter**

SigmaAldrich.com/proligo

