Custom Oligo Specifications
Gene Link custom oligonucleotides are supplied desalted and lyophilized. They are ready to use after appropriate reconstitution. Dry oligonucleotides are stable at room temperature for an extended period of time.

Storage & Reconstitution
The oligonucleotide should preferably be frozen upon receipt. TE buffer (10 mM Tris, 1 mM EDTA, pH 7.5) is recommended for dissolving the oligonucleotides; EDTA inhibits the activity of the nucleases. Further dilution can be made in distilled sterile water. After reconstitution store the stock solution at −80°C or −20°C.

Gel Photo Documentation
An actual gel picture of the synthesized custom oligonucleotide is supplied. Polyacrylamide gels of 12 to 15% are run, depending upon the length of the custom oligonucleotide. A major single band represents high purity of the crude oligonucleotide. Gel purification recommended for PCR and sequencing applications. No further purification required for cloning and mutagenesis.

Purity & Usage
The crude, desalted oligonucleotide supplied is suitable for all amplification and sequencing protocols. Gel purification is advised for all oligos used for cloning applications and for oligos longer than 50mer.

Biophysical Data
Each oligo after desalting is quantified by recording A260. Exact nmols and µg is determined by the extinction coefficient and molecular weight of the oligo.

Oligo Reconstitution and Use
Gene Link oligos are supplied lyophilized. These are stable at room temperature for an extended period of time. TE buffer (10 mM Tris, 1 mM EDTA, pH 7.5) is recommended for dissolving the oligonucleotides; EDTA inhibits the activity of the nucleases. Further dilution can be made in distilled sterile water. After reconstitution store the stock solution at −80°C or −20°C.

Standard PCR Set Up

<table>
<thead>
<tr>
<th>Reagent</th>
<th>Final Concentration</th>
<th>Quantity/50µl Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile deionized water</td>
<td>–</td>
<td>variable</td>
</tr>
<tr>
<td>10X *PCR buffer</td>
<td>1X</td>
<td>5µl</td>
</tr>
<tr>
<td>2mM dNTP mix</td>
<td>0.2mM of each</td>
<td>5µl</td>
</tr>
<tr>
<td>Primer I, 10µM (10pmol/µl)</td>
<td>0.5µM</td>
<td>2.5µl</td>
</tr>
<tr>
<td>Primer II, 10µM (10pmol/µl)</td>
<td>0.5µM</td>
<td>2.5µl</td>
</tr>
<tr>
<td>Taq DNA Polymerase, 5U/µl</td>
<td>1.25 U/50µl</td>
<td>0.25µl</td>
</tr>
<tr>
<td>Template DNA</td>
<td>10pg-1µg</td>
<td>variable</td>
</tr>
</tbody>
</table>

*Final MgCl₂ concentration is 1.5 mM

Oligo Reconstitution
Stock solution of 500pmols/µl [500µM]
Gene Link provides the exact amount of nmols of each oligo supplied on the tube and on the Oligo Report. Multiply the ‘nmol’ amount by 2 to arrive at the volume of TE to be added.
Example: 45.10nmols x 2 = 90.2 µl
Dilute the oligo in 90.2 µl to get 500pmols/µl stock solution. Use as required.
Dilute 10 fold to prepare a 50pmols/µl [50µM]. Use as required.

Stock solution of 100 pmols/µl [100µM]
Gene Link provides the exact amount of nmols of each oligo supplied on the tube and on the Oligo Report. Multiply the ‘nmol’ amount by 10 to arrive at the volume of TE to be added.
Example: 45.10nmols x 10 = 451 µl
Dilute the oligo in 451 µl to get 100pmols/µl stock solution.
Use as required.
Dilute 10 fold to prepare a 10pmols/µl [10µM]. Use as required.

Examples of Use
Polymerase Chain Reaction (PCR)
The final concentration of primers in a PCR reaction is 0.2–1.0 µM. This is equivalent to 0.2–1 pmol/µl. At Gene Link, for a standard PCR we use 0.5 pmol/µl.

Sequencing
The final concentration of primer in automated sequencing is from 4 to 10 pmols (~0.05 - 0.1 μM). Use the oligo reconstitution protocol to prepare a 100pmols/µl [100µM] solution and then dilute 10 fold to get 10pmols/µl solution. Use 1µl (10pmols).

Quick Conversion Table
1µM (µMolar) = 1 pmol/µl (picomoles/µl)
1mM (milliMolar) = 1nmols/µl (nanomoles/µl)
Example: 20µMolar primer solution is 20pmol/µl