Product Information Sheet

**Product Name:** 10X GC Enhancer

**Item Number:**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Rxns</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCE-10-100</td>
<td>100</td>
<td>(1 x 500µL)</td>
</tr>
<tr>
<td>GCE-10-500</td>
<td>500</td>
<td>(5 x 500µL)</td>
</tr>
</tbody>
</table>

**Concentration:** 10X

**Storage and Handling:** Store at -20°C upon arrival.

**Product Description:**
Empirical’s 10X GC Enhancer is a novel PCR cosolvent that enhances amplification and overcomes inhibition of GC rich templates ≤ 80% GC content. The 10X GC Enhancer can be added to any buffer system or master mix to enhance amplification of difficult templates.

**Reaction set-up:** For a 50uL reaction

<table>
<thead>
<tr>
<th>Component</th>
<th>Volume</th>
<th>Final Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>*10X Reaction Buffer</td>
<td>5 µl</td>
<td>1X</td>
</tr>
<tr>
<td>Upstream Primer, 10µM</td>
<td>0.5-5.0 µl</td>
<td>0.1-2.0µM</td>
</tr>
<tr>
<td>Downstream Primer, 10µM</td>
<td>0.5-5.0 µl</td>
<td>0.1-2.0µM</td>
</tr>
<tr>
<td>dNTP, 10mM</td>
<td>1-2.5 µl</td>
<td>200-500µM</td>
</tr>
<tr>
<td>DNA Template</td>
<td>X µl</td>
<td>50-500ng gDNA; 2-50pg pDNA</td>
</tr>
<tr>
<td>Taq Polymerase</td>
<td>0.25-1µL</td>
<td>1.25U-5U</td>
</tr>
<tr>
<td>GC Enhancer</td>
<td>5 µl</td>
<td>1X</td>
</tr>
<tr>
<td>Nuclease Free Water</td>
<td>to 50 µl</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

*Magnesium Concentration can be increased with provided solution.

**Thermal cycling conditions:** The following general cycling conditions are recommended but can vary depending the enzyme, template and primers being used.

<table>
<thead>
<tr>
<th>Cycling Step</th>
<th>Temperature</th>
<th>Holding Time</th>
<th>Cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Denaturation</td>
<td>94-95°C</td>
<td>15sec – 2min</td>
<td>1</td>
</tr>
<tr>
<td>Denaturation</td>
<td>94-95°C</td>
<td>15-30sec</td>
<td></td>
</tr>
<tr>
<td>Annealing**</td>
<td>55-65°C</td>
<td>15-30sec</td>
<td>30</td>
</tr>
<tr>
<td>Extension</td>
<td>68-72°C</td>
<td>1min/kb</td>
<td></td>
</tr>
<tr>
<td>Final Extension</td>
<td>68-72°C</td>
<td>5-10min</td>
<td>1</td>
</tr>
</tbody>
</table>

**Annealing will depend on primer length and composition. Generally, begin 5°C below primer Tₘ.**

**This product is for “Research Use Only. Not for use in diagnostic procedures”**.
For MSDS and Certificate of Analysis please visit www.empiricalbioscience.com