**Print Only Page 2 for Customers**

**Concentration:** GC Enhancer: 10X

**Storage and Handling:**

Upon arrival store at -20°C for provided expiration date, Room Temperature for 90 Days, 4°C for up to 120 days.

**Ordering Information:**

|  |  |  |
| --- | --- | --- |
| **Item Number** | **Number of Tubes and Volume** | **Total number of reactions which can be obtained when using the following reaction sizes** |
| **50μL Reactions** | **20μL Reactions** | **10μL Reactions** |
| GCE-10-500 | 10X GC Enhancer: 5 x 500µL | 500 | 1250 | 2500 |

**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.

**Protocol:** The following reaction set up and general cycling conditions are recommended but can vary depending on the template and primers being used.

**Reaction set-up for a 50uL Reaction:**

|  |  |  |
| --- | --- | --- |
| Component | Volume | Final Concentration |
| 10X Reaction Buffer | 5 µl | 1X |
| Upstream Primer, 10µM | 0.5-5.0 µl | 0.1-1.0µM |
| Downstream Primer, 10µM | 0.5-5.0 µl | 0.1-1.0µM |
| dNTP, 10mM | 1-4 µl | 200-800µM |
| DNA Template | X µl | > 1ng DNA |
| Taq Polymerase | 0.25-1uL | 1.25U-5U |
| GC Enhancer | 5 µl | 1X |
| Nuclease Free Water  | to 50 µl | N.A. |

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

|  |  |  |  |
| --- | --- | --- | --- |
| Cycling Step | Temperature | Holding Time | Cycles |
| Initial Denaturation | 94-95⁰C | 15sec – 2min | 1 |
| Denaturation | 94-95⁰C | 15-30sec | 30 |
| Annealing# | 55-65⁰C | 15-30sec |
| Extension | 68-72⁰C | 1min/kb |
| Final Extension | 68-72⁰C | 5-10min | 1 |
| #Annealing will depend on primer length and composition. Generally, begin 5°C below primer Tm. |