Storage and handling of primers, custom oligos and BHQ Probes

Thank you for your recent order of custom-synthesised oligonucleotides. These compounds were carefully analysed throughout production to guarantee that they meet or exceed your expectations for performance upon arrival. You may receive additional product documentation such as paper Certificates of Analysis upon request. To ensure maximal performance from these compounds, please take a moment to review the suggested handling and storage guidelines.

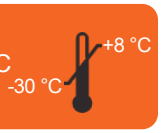
Product description

LGC, Biosearch Technologies manufactures custom oligonucleotides for genomic analysis including qPCR and sequencing based applications. We offer a wide variety of modified bases and oligo modifications for 5', 3' and internal labeling. Biosearch Technologies also produces a variety of qPCR probe formats including Dual-Labeled BHQ™ hydrolysis probes, BHQplus™ Probes, BHQnova™ Probes, Molecular Beacons, BHQplex™ CoPrimers™ and Scorpions™ Primers. As the inventor of the BHQ (Black Hole Quencher™) technology, Biosearch Technologies incorporates BHQ dye to efficiently quench fluorophore reporter dyes across the visible spectrum from 430 nm to the near-infrared range of 730 nm.

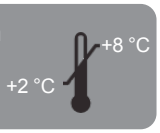
Storage guidelines

Synthetic oligos are typically very stable, but careful handling according to our guidelines will help prevent degradation during storage. All oligos are delivered dry unless otherwise specified. In their dry state, oligos are stable for over one year when stored refrigerated at +2 to +8 °C or stored frozen at -15 to -30 °C.

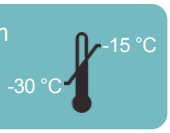
DRY: Short or long term
+2 to +8 °C or -15 to -30 °C
Refrigerate or freeze



IN SOLUTION: Short term
+2 to +8 °C
Refrigerate



IN SOLUTION: Long term
-15 to -30 °C
Freeze



Short term storage and daily use

Dissolved oligos should be subjected to a minimum number of freeze-thaw cycles. For daily and short-term use, prepare, aliquot, and store microvials each containing sufficient material for a day's worth of experiments. These working stocks can be stored refrigerated at +2 to +8 °C in the dark for up to a month.

Long term storage

To maintain the optimal stability, it is recommended to store the probes frozen in the dark at -15 to -30 °C for extended storage lasting longer than a month.

Please note that Biosearch Technologies does not assign expiration dating nor guarantee shelf life to the products sold, as is customary to the oligo industry. Each oligo is a unique chemical compound which will affect its physical properties including the stability of the compound and its resistance to degradation of various forms. Instead, we recommend our customers establish an expiration date based upon an evaluation of (1) product performance at the customer site and (2) the level of risk to downstream production or application activities and associated products.
However, if handled properly according to the guidelines in this document, our customers can typically expect the oligos to remain stable for 12 months from the date of receipt.

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GENOMIC ANALYSIS BY LGC

Preparation for use

Oligos including BHQ probes are best prepared for use or long-term storage by preparing a concentrated stock solution, which can later be further diluted to a convenient working concentration. For the initial stock concentration, we typically re-suspend to a 100 µM concentration of stock solution ensuring that the liquid volume added is sufficient to re-suspend the entire oligo pellet.

Reconstitution of oligo into solution

1. Prepare one of the following diluents for making stock and working solutions:
   • TE Buffer (10 mM Tris•Cl/1 mM EDTA), pH 8.0 (Recommended)
   • DNase-free water
2. Briefly spin down the oligo tube to make sure the oligo pellet is located at the bottom of the tube.
3. Dissolve the dry oligo into solution using one of the above diluents. A stock solution of 100 µM oligo concentration is prepared using the "Total nmol" amount of the dry probe listed on the tube. Multiply this value by 10 to determine the volume of diluent to add in microliters. Ensure that this volume will be sufficient to coat the entire bottom of the tube. If the volume is low you can resuspend the oligo in twice the volume to create a more dilute 50 µM stock solution. Vortex thoroughly and repeatedly for a minimum of 30 seconds, until no further particulates are observed in the bottom of the tube.
4. Next, dilute a portion of the stock solution to an appropriate working concentration. Once diluted, aliquot this working solution into microvials, each containing sufficient volume for a day's worth of experiments. The working aliquots can be stored refrigerated or frozen, but each should be used for only one or a few experiments, to minimise exposure of the oligo to the laboratory environment and the number of freeze-thaw cycles.
5. To ensure optimal activity, fluorescence-quenched probes or any oligo labeled with dye modifications should always be protected from light and air to avoid photobleaching. Dye labeled oligos should be stored in amber tubes, or else in clear tubes within a secondary opaque container.

Important note: The pH of Tris buffers changes significantly with temperature, decreasing approximately 0.028 pH units per 1 °C rise in temperature. Tris-buffered solutions should be adjusted to the desired pH at the temperature at which they will be used. Because the pKa of Tris is 8.08, Tris should not be used as a buffer below pH ~7.2 or above pH ~9.0.

Technical Support

If you require additional information or technical assistance please feel free to email our Technical Support Team at: techsupport@lgcgroup.com

Sales Support

To place an order or check on the status of an order, please contact our Sales Department by email: genomics.americas@lgcgroup.com

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