iQ™ Multiplex Powermix

iQ multiplex powermix simplifies real-time detection of multiple targets in a single tube, routinely yielding efficiencies equivalent to corresponding singleplex reactions. Increase throughput, control costs, and maximize your data output with this powerful blend.

- Reliable real-time multiplex PCR detection of up to 5 targets
- Detection of up to 4 targets, one of which may differ $10^6$-fold in expression
- Linearity over 6 orders of magnitude of input cDNA and 4 orders of magnitude of input genomic DNA

For more information, visit us on the Web at [www.bio-rad.com/supermixes/](http://www.bio-rad.com/supermixes/).
Bio-Rad has applied its expertise in multiplex real-time PCR to create a robust mix that greatly simplifies real-time detection of multiple targets in a single tube. Although design software, such as Beacon Designer software, has made it easier to design effective primers and probes, finding a set of reaction conditions that amplifies all targets with equal efficiency in both singleplex and multiplex reactions can still be a challenge. Until now, optimization entailed an empirical approach in which buffer components, enzyme concentrations, dNTP amounts, and primer concentrations were adjusted to ensure similar amplification curves in singleplex and multiplex reactions. Consequently, many researchers have avoided performing multiplex real-time PCR or only perform this time-consuming process when it is absolutely required for their experiment.

To help simplify multiplex real-time PCR, Bio-Rad has developed iQ® multiplex powermix. This mix makes multiplex real-time PCR easier by eliminating the need to optimize buffer, enzyme, or primer concentrations.

Save time and reduce reagent costs — with this reliable mix, you can increase throughput and control costs by running multiple assays in a single reaction, maximizing the amount of data collected from limited amounts of sample. iQ® multiplex powermix is formulated for analysis using cDNA, genomic DNA, and plasmids, and can be used for a wide variety of applications, including:

- Gene expression analysis
- SNP genotyping/SNP analysis
- GMO detection
- Viral load detection

Comparable sensitivity between four-plex assay and corresponding singleplex assays on the iQ®5 real-time PCR detection system. Spleen cDNA amplified with primers to 18S rRNA (HEX-labeled probe), β-actin (FAM-labeled probe), tubulin (Cy5-labeled probe), and IL-2 (Texas Red-labeled probe) in either singleplex (red traces) or multiplex (green traces). There was no loss in sensitivity on converting these four single assays into a multiplex assay, as seen by the close threshold crossings of singleplex vs. multiplex traces.

**Linearly of four-target detection using the iQ5 real-time PCR detection system.** A series of 10-fold dilutions of human genomic DNA (500 ng–50 pg in a 50 µl reaction) was amplified to amplify all targets with equal efficiency (94.9%, r² = 0.998); GAPDH, detected with a HEX-labeled probe (efficiency = 94.9%, r² = 0.998); IL-1β, detected with a Texas Red-labeled probe (efficiency = 101.8%, r² = 0.998); and factor VIII, detected with a Cy5-labeled probe (efficiency = 101.6%, r² = 0.998).

**Ordering Information**

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Description</th>
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<tbody>
<tr>
<td>172-5848</td>
<td>iQ® Multiplex Powermix, 50 x 50 µl reactions, 2x mix contains dNTPs, 11 mM MgCl₂, Taq DNA polymerase, stabilizers</td>
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<tr>
<td>172-5849</td>
<td>iQ® Multiplex Powermix, 200 x 50 µl reactions</td>
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