

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/.

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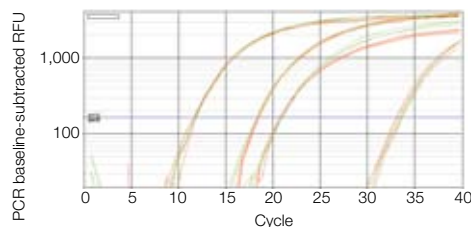
Detect Multiple Targets Without Optimization

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.

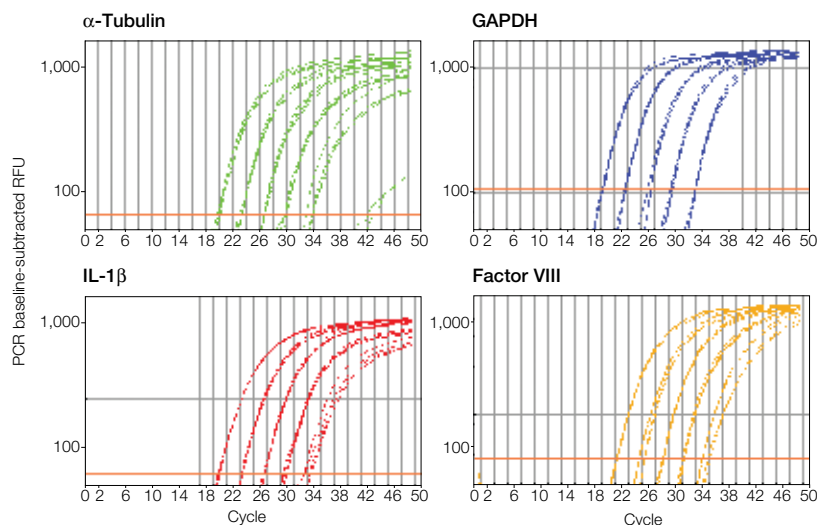
To help simplify multiplex real-time PCR, Bio-Rad has developed iQ multiplex powermix. This mix makes multiplex real-time PCR easier by eliminating the need to optimize buffer, enzyme, or primer concentrations.

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.



Linearity 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 μ l reaction) was amplified to assay for four target genes using iQ multiplex powermix. Targets were α -tubulin, detected with a FAM-labeled probe (efficiency = 96.4%, $r^2 = 0.996$); GAPDH, detected with a HEX-labeled probe (efficiency = 94.9%, $r^2 = 0.998$); IL-1 β , detected with a Texas Red-labeled probe (efficiency = 101.8%, $r^2 = 0.998$); and factor VIII, detected with a Cy5-labeled probe (efficiency = 101.6%, $r^2 = 0.994$).

Ordering Information

Catalog #	Description
172-5848	iQ Multiplex Powermix , 50 x 50 μ l reactions, 2x mix contains dNTPs, 11 mM MgCl ₂ , iTaq™ DNA polymerase, stabilizers
172-5849	iQ Multiplex Powermix , 200 x 50 μ l reactions

Beacon Designer is a trademark of PREMIER Biosoft International. Cy is a trademark of GE Healthcare group companies. Texas Red is a trademark of Invitrogen Corporation.

Practice of the patented 5' Nuclease Process requires a license from Applied Biosystems. The purchase of this product includes an immunity from suit under patents specified in the product insert to use only the amount purchased for the purchaser's own internal research when used with the separate purchase of Licensed Probe. No other patent rights are conveyed expressly, by implication, or by estoppel. Further information on purchasing licenses may be obtained from the Director of Licensing, Applied Biosystems, 850 Lincoln Centre Drive, Foster City, California 94404, USA.

Bio-Rad's real-time thermal cyclers are licensed real-time thermal cyclers under Applied's United States Patent No. 6,814,934 B1 for use in research and for all other fields except the fields of human diagnostics and veterinary diagnostics.

Bio-Rad's real-time thermal cyclers are covered by one or more of the following U.S. patents or their foreign counterparts owned by Eppendorf AG: U.S. Patent Nos. 6,767,512 and 7,074,367.



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