



iQ-Check[®] Real-Time PCR Solution

Real-time PCR methods for the
detection of food and environmental pathogens



The iQ-Check Solution: Providing Peace of Mind for Food Safety

The iQ-Check Solution takes full advantage of real-time PCR to provide a fast and reliable method for food and environmental pathogen testing. It is a complete, flexible, and open solution, allowing industrial microbiology laboratories quick control and reaction in their quality assurance procedures.

Proven Technology

Based on PCR gene amplification and real-time detection, iQ-Check Kits use DNA primers and fluorescent probes specific to the target organism (Figure 1). Detection of a fluorescent signal for the amplified target sequences indicates the presence of the pathogen in the sample being tested. An internal positive control is included to validate any negative results in each well (PCR inhibitor monitoring).

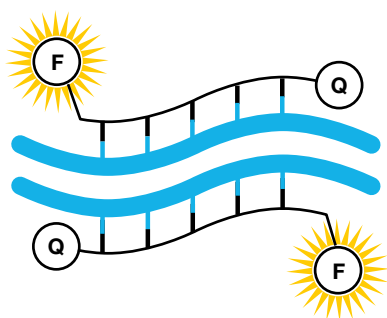


Fig. 1. Illustration of Bio-Rad's patented* fluorescent probe.

Truly Fast Results

Speed up the release of finished products and in-process batches. Protocols are available with results in as little as 12 hours (Figure 2).

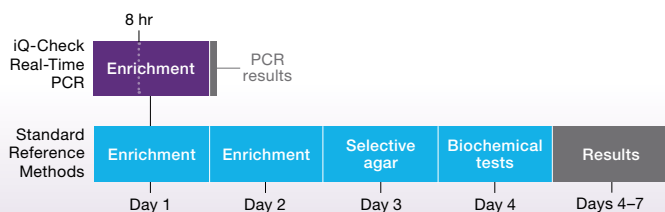


Fig. 2. Time savings achieved using the iQ-Check Solution over standard reference methods. The iQ-Check System allows for single enrichments in 8–24 hr.



A Complete Solution

- Standardized reagents:
 - Enrichment media
 - iQ-Check Real-Time PCR Kits
 - Chromogenic agars
- Biochemical confirmation tests
- Antisera for serotyping
- Validated equipment and software:
 - Integrated automation solution for sample preparation
 - Real-time PCR detection systems
 - Automated data interpretation and traceability

Easy to Use

- High-throughput DNA extraction procedures
- Automated amplification, detection, and interpretation

High-Quality Results

- Positive, negative, and internal PCR inhibition controls for accurate and reliable results
- Protocols available for rapid results with and without enrichment

Full Flexibility

- Up to 94 samples per run
- All pathogens can be run in parallel on the same plate

Traceability

- Automation, LIMS connection, and/or barcode reader available
- Customizable report includes all information regarding the analysis

Validations

iQ-Check Method	NF Validation by AFNOR Certification	AOAC	NordVal	Health Canada	iQ-Check Method	NF Validation by AFNOR Certification	AOAC	NordVal	Health Canada
<i>Campylobacter</i> spp.		•			<i>Salmonella</i> spp.	•	•	•	•
<i>Cronobacter</i> spp.	•		•		<i>Salmonella</i> Enteritidis				
<i>E. coli</i> O157:H7	•	•			STEC virulence genes**		•		
<i>Listeria monocytogenes</i>	•	•	•	Pending	STEC 7 major O-groups**		•		
<i>Listeria</i> spp.	•	•		•					

* EP1911852B1, AU2007306019B1, CA2666388B1, JP5330250B1

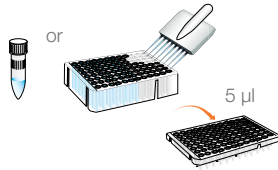
** USDA No-Objection Letters

Manual Solution: Four-Step Protocol

1. Enrich sample



2. Extract DNA: collect enriched DNA and lyse cells



3. Setup PCR + amplification: add extracted DNA to PCR wells



4. Evaluate automated analysis, interpretation, and report

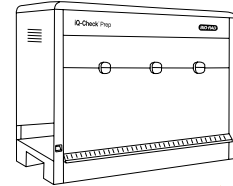


Automated Solution: iQ-Check® Prep Workflow

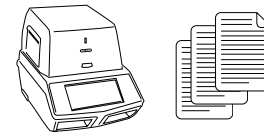
1. Load enriched samples on a deep-well plate or in tubes according to the worklist



2. Load consumables, reagents, and samples and run the iQ-Check Prep System



3. Run real-time PCR and get your results



Performing 250 or fewer tests in an 8-hour shift?

Use the iQ-Check Prep System and one CFX96 Touch™ Deep Well Real-Time PCR instrument

Performing more than 500 tests?

Simply add a CFX96 Touch Deep Well instrument

Instruments and Software



iQ-Check Prep

- Liquid handling platform for DNA extraction and PCR plate setup
- Completely integrated solution for pathogen detection with iQ-Check Kits

CFX96 Touch Deep Well Real-Time PCR System

- Delivers sensitive five-color multiplex performance
- Can run up to 96 tests at once

MiniOpticon™ Real-Time PCR Detection System

- Smallest, most portable real-time PCR system
- Can run up to 48 tests at once

CFX Manager™ Software, IDE

- Easy-to-use sample setup
- Automated analysis of results



Applications

iQ-Check methods can be used as a powerful alternative to standard reference methods for the detection of food and environmental pathogens.

- Screen for *Listeria* spp, *Salmonella*, or other target as part of your environmental monitoring program or HACCP plan
- Benefit from short enrichment protocols for *Salmonella*, STEC, and *E. coli* O157:H7 detection in raw meat
- Detect threshold levels of *Salmonella* in poultry and rinse samples
- Use optimized and simple protocols for difficult matrices, such as spices or cocoa products

- Confirm suspect colonies on RAPID'Chromogenic Media
- Increase efficiency using our fully automated iQ-Check Prep System
- Take advantage of the open software and system (GMOs, allergens, or norovirus detection)

For a complete list of applications or to discuss how the iQ-Check System can be integrated into your lab, contact your local Bio-Rad food science sales representative.



“Working together with our customers and sharing knowledge and experiences for continuous improvement are the best way to do business.”

JEAN-PHILIPPE TOURNIAIRE
International Product Manager
Food Science Division
14 years at Bio-Rad

Ordering Information

Catalog # Description

Reagents

iQ-Check Kits

3578135 iQ-Check *Campylobacter* Kit, 96 reactions
3578137 iQ-Check *Cronobacter* Kit, 96 reactions
3578114 iQ-Check *E.coli* O157:H7 Kit, 96 reactions
3578124 iQ-Check *Listeria monocytogenes* II Kit, 96 reactions
3578113 iQ-Check *Listeria* spp. Kit, 96 reactions
3578123 iQ-Check *Salmonella* II Kit, 96 reactions
3578142 iQ-Check *S. Enteritidis* Kit, 96 reactions
3578139 iQ-Check STEC VirX Kit, 96 reactions
3578140 iQ-Check STEC SerO Kit, 32 reactions
3578141 iQ-Check *S. Typhimurium* Kit, 96 reactions

Media for Sample Enrichment

3554179 Buffered Peptone Water Broth, 225 ml x 6 bottles
3564684 Buffered Peptone Water Broth, 500 g
3555797 Fraser 1/2 Broth, 225 ml x 6 bottles
3553454 Trypto-Casein-Soy (TCS) Broth, 10 ml x 25 tubes
3555703 *Listeria* Special Broth (LSB), 225 ml x 6 bottles
3564703 *Listeria* Special Broth (LSB), 500 g
3564753 *Listeria* Special Broth (LSB), 5 kg
3564001 STEC Enrichment Broth, 500 g

Chromogenic Media for Confirmation

3564748 RAPID'*E.coli* O157:H7 Dehydrated Base, 100 g
3564744 RAPID'*Listeria* spp. Dehydrated Base, 500 g
3563694 RAPID'*L.mono* Agar, 90 mm x 20 plates
3563971 RAPID'*Sakazakii* Agar, 90 mm x 20 plates
3563963 RAPID'*Salmonella* Agar, 90 mm x 120 plates

For more information and to see how our products can be incorporated into food testing workflows, visit our website:

iQ-Check Real-Time PCR Kits — bio-rad.com/iqcheck
RAPID'Chromogenic Media — bio-rad.com/rapidmedia

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 Numbers: 6,767,512 and 7,074,367.

Hard-Shell Plates are covered by one or more of the following U.S. patents or their foreign counterparts owned by Eppendorf AG: U.S. Patent Numbers 7,347,977; 6,340,589; and 6,528,302.

Catalog # Description

Equipment and Consumables (ordered in North America)

Instruments

3600037 Industrial Diagnostic CFX96 Deep Well Real-Time PCR Detection System, 96 wells
3591592 MiniOpticon Real-Time PCR Detection System, 48 wells
3600042 CFX Manager Software, Industrial Diagnostic Edition (IDE)
3594911 iQ-Check Prep System

Consumables for CFX96 Deep Well and MiniOpticon Systems

HSP9655XTU Hard-Shell® 96-Well Skirted PCR Plates, pkg of 50, low profile, thin walled, white shell, white wells
MLL4851XTU Multiplate™ 48-Well Unskirted PCR Plates, pkg of 50, low profile, white
TLS0851XTU Low-profile 0.2 ml PCR 8-Tube Strips Without Caps, pkg of 120, thin-walled, white
TCS0803XTU Optical Flat 8-Cap Strips, pkg of 120, for 0.2 ml tubes and plates, ultraclear
HSP9955XTU Hard-Shell 96-Well Skirted PCR Plates, pkg of 50, barcoded, low profile, thin walled, white shell, white wells

Consumables for DNA Extraction

2240110XTU Conical Tubes, pkg of 500, 1.5 ml, with installed O-ring screwcaps, sterilized
3600040 Pre-Pierced Sealing Film, pkg of 100

Equipment and Consumables (ordered in the rest of the world)

Instruments

3594990 Industrial Diagnostic CFX96 Deep Well Real-Time PCR Detection System, 96 wells
3593995 MiniOpticon Real-Time PCR Detection System, 48 wells
3593893 CFX Manager Software, Industrial Diagnostic Edition (IDE)
3594911 iQ-Check Prep System

Consumables for CFX96 Deep Well and MiniOpticon Systems

35HSP9655 Hard-Shell 96-Well Skirted PCR Plates, pkg of 50, low profile, thin walled, white shell, white wells
35MLL4851 Multiplate 48-Well Unskirted PCR Plates, pkg of 50, low profile, white
35TLS0851 Low-profile 0.2 ml PCR 8-Tube Strips Without Caps, pkg of 120, thin-walled, white
35TCS0803 Optical Flat 8-Cap Strips, pkg of 120, for 0.2 ml tubes and plates, ultraclear
HSP9955 Hard-Shell 96-Well Skirted PCR Plates, pkg of 50, barcoded, low profile, thin walled, white shell, white wells

Consumables for DNA Extraction

352240110 Conical Tubes, pkg of 500, 1.5 ml, with installed O-ring screwcaps, sterilized
3593977 Pre-Pierced Sealing Film, pkg of 100



Bio-Rad
Laboratories, Inc.

Life Science
Group

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