

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 Testing

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).

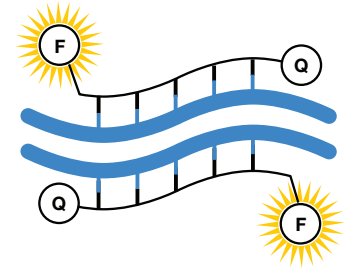
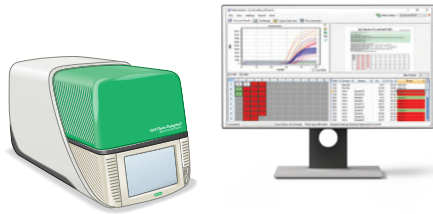
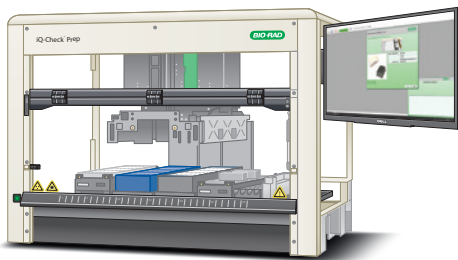


Fig. 1. Illustration of the Bio-Rad Laboratories, Inc. fluorescent probe.

Instruments and Software



iQ-Check Prep System

- Liquid handling platform for DNA extraction and PCR plate setup
- Completely integrated solution for pathogen detection with iQ-Check Kits
- Full sample traceability and bidirectional laboratory information management system communication

CFX Opus Deepwell Real-Time PCR System

- Delivers sensitive 5-color multiplex performance
- Flexible connectivity for data management and instrument control
- Open platform

CFX Manager Software, Industrial Diagnostic Edition (IDE)

- Easy-to-use sample setup
- Secure and customizable reports
- Ability to use open software for other laboratory tests

Validations

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

STEC, Shiga toxin-producing *E. coli*.

* Official Method of Analysis First Action, 2017.06.

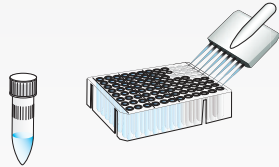
Easy-to-Use Protocols

Manual Solution: Four-Step Protocol

1. Enrich sample.



2. Extract DNA:
collect enriched sample
and lyse cells.



3. Set up PCR run:
add extracted DNA
to PCR wells.



**4. Run real-time PCR
and get your results.**

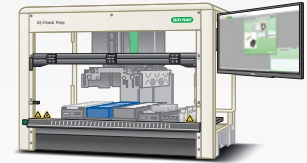


Automated Solution: iQ-Check Prep System Workflow

**1. Load enriched samples
on an iQ-Check Deep Well
Microplate or in tubes
according to the
sample worklist.**



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



**3. Run real-time PCR
and get your results.**



**Perform up to 480 tests in a single 8 hr shift
using one iQ-Check Prep and one
real-time PCR system.**

Applications

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

- Safely remove free DNA with our nontoxic, easy-to-use **iQ-Check Free DNA Removal Solution**
- Use **PIF Supplement** to harmonize enrichment for *Enterobacteriaceae*, *Cronobacter*, and *Salmonella* in milk powder, infant formula, cereal, and raw flour
- Screen for *Listeria* spp., *Salmonella*, or other targets as part of your environmental monitoring program or HACCP plan
- Harmonize enrichment for *Salmonella* and STEC detection in raw meat
- Detect threshold levels of *Salmonella* in poultry and rinse samples
- Use the **iQ-Check Purification Reagent** treatment for difficult matrices, such as spices, cocoa, or cannabis products
- Take advantage of the open software and system (genetically modified organism, allergen, 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 safety specialist.

Ordering Information

Catalog #	Description
iQ-Check Kits	
12010806	iQ-Check <i>Aspergillus</i> Kit, 96 reactions
3578135	iQ-Check <i>Campylobacter</i> Kit, 96 reactions
3578137	iQ-Check <i>Cronobacter</i> Kit, 96 reactions
3578114	iQ-Check <i>E.coli</i> O157:H7 Kit, 96 reactions
12003068	iQ-Check <i>Enterobacteriaceae</i> Kit, 96 reactions
3578124	iQ-Check <i>Listeria monocytogenes</i> II Kit, 96 reactions
3578113	iQ-Check <i>Listeria</i> spp. Kit, 96 reactions
3578123	iQ-Check <i>Salmonella</i> II Kit, 96 reactions
3578142	iQ-Check <i>S. Enteritidis</i> Kit, 96 reactions
12013174	iQ-Check STEC SerO II Kit, 32 reactions
3578139	iQ-Check STEC VirX Kit, 96 reactions
12004306	iQ-Check <i>S. Typhimurium</i> Kit, 96 reactions
12006574	iQ-Check <i>Vibrio</i> Kit, 96 reactions
iQ-Design Assays	
12015337	iQ-Design Assay <i>Aspergillus flavus</i> , 100 reactions
12015260	iQ-Design Assay <i>Aspergillus fumigatus</i> , 100 reactions
12015336	iQ-Design Assay <i>Aspergillus niger</i> , 100 reactions
12018492	iQ-Design Assay <i>Aspergillus terreus</i> , 100 reactions
12013770	iQ-Design Assay <i>E. coli</i> O104, 200 reactions
12015330	iQ-Design Assay <i>Aspergillus</i> Identification Positive Control
12018493	iQ-Design Assay <i>Aspergillus</i> + <i>terreus</i> Positive Control
Supplemental Reagents	
3594970	iQ-Check Free DNA Removal Solution, 1 vial lyophilized iQ-Check Free DNA Removal Reagent (to make 10 ml) and 1 vial of iQ-Check 10x Activation Buffer (9 ml)
3578138	iQ-Check Lysis II Reagent
3578136	iQ-Check Lysis Beads
12012383	iQ-Check Purification Reagent, 1 vial to make 25 ml for 96 tests
12013322	PIF Supplement, 2 g
Media for Sample Enrichment	
3564684	Buffered Peptone Water Plus, dehydrated, 500 g
3554179	Buffered Peptone Water Plus, 225 ml x 6 bottles
3555795	Buffered Peptone Water Plus, 3 L x 4 bags
3555790	Buffered Peptone Water Plus, 5 L x 2 bags
12013259	Buffered Peptone Water Standard, dehydrated, 500 g
12013258	Buffered Peptone Water Standard, dehydrated, 5 kg
12013260	Buffered Peptone Water Standard, 5 L x 2 bags
3555703	<i>Listeria</i> Special Broth (LSB), 225 ml x 6 bottles
3564703	<i>Listeria</i> Special Broth (LSB), dehydrated, 500 g
3564753	<i>Listeria</i> Special Broth (LSB), dehydrated, 5 kg
12017463	<i>Listeria</i> Special Broth II (LSB II), 225 ml x 6 bottles
12017388	<i>Listeria</i> Special Broth II (LSB II), dehydrated, 500 g
12017378	<i>Listeria</i> Special Broth II (LSB II), dehydrated, 5 kg
12007405	<i>Vibrio</i> Enrichment Broth, dehydrated, 500 g

Catalog #	Description
Chromogenic Media for Confirmation	
3564748	RAPID' <i>E.coli</i> O157:H7 Dehydrated Base, 100 g
3564744	RAPID' <i>Listeria</i> spp. Dehydrated Base, 500 g
3554012	RAPID' <i>Enterobacteriaceae</i> Agar, ready to use, 200 ml x 6 bottles
3563694	RAPID' <i>L.mono</i> Agar, 90 mm x 20 plates
3563971	RAPID' <i>Sakazakii</i> Agar, 90 mm x 20 plates
3563963	RAPID' <i>Salmonella</i> Agar, 90 mm x 120 plates
3563695	AL (Agar <i>Listeria</i> according to Ottaviani and Agosti), 90 mm x 20 plates
Instruments and Software	
17007991	CFX Opus Deepwell Real-Time PCR System, 96 wells
3600037	CFX96 Touch Deep Well Real-Time PCR System, 96 wells
3594911	iQ-Check Prep System
3593893	CFX Manager Software, Industrial Diagnostic Edition (IDE)
Consumables	
HSP9655XTU	Hard-Shell™ 96-Well Skirted PCR Plates, pkg of 50, low profile, thin walled, white shell, white wells
HSP9955XTU	Hard-Shell 96-Well Skirted PCR Plates, pkg of 50, barcoded, low profile, thin walled, white shell, white wells
3594900	iQ-Check Deep Well Microplates, 96-well plates, 50
MLL9651XTU	Multiplate 96-Well PCR Plates, low profile, unskirted, pkg of 25
TLS0851XTU	0.2 ml 8-Tube PCR Strips without Caps, pkg of 120, low profile, thin walled, white
TCS0803XTU	Optical Flat 8-Cap Strips, pkg of 120, for 0.2 ml tubes and plates, ultra-clear
2240110XTU	Conical Tubes, pkg of 500, 1.5 ml, with installed O-ring screwcaps, sterilized
3593977	X-Pierce Films, pkg of 100

Visit our website for more information and to see how our products can be incorporated into food testing workflows:

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

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Life Science
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