iQ-Check™ Real-Time PCR Solution

Real-Time PCR Methods for the Detection of Food and Environmental Pathogens

Visit bio-rad.com/FoodScience for more information.
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).

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

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

NF Validation by AFNOR Certification
- Health Canada
- MicroVal

* Official Method of Analysis First Action, 2017.06.

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

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12013277</td>
<td>iQ-Check Lysis Beads</td>
</tr>
<tr>
<td>12013328</td>
<td>iQ-Check Purification Reagent, 1 vial to make 25 ml for 96 tests</td>
</tr>
<tr>
<td>12013322</td>
<td>PIF Supplement, 2 g</td>
</tr>
<tr>
<td>3594900</td>
<td>iQ-Check Prep System</td>
</tr>
<tr>
<td>3593977</td>
<td>X-Pierce Films, pkg of 100</td>
</tr>
</tbody>
</table>

**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
- **ML9651XTU** 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, ultraclear
- **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](http://bio-rad.com/iQCheck)


Bio-RAD and HARD-SHELL are trademarks of Bio-Rad Laboratories, Inc. in certain jurisdictions. IQ-CHECK is a trademark of Bio-Rad Europe GmbH in certain jurisdictions. All trademarks used herein are the property of their respective owners.

© 2023 Bio-Rad Laboratories, Inc.

---

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