Food Authenticity Testing

ID-Check Speciation Kits

Introduction
The identification of meat species present in food and ingredient samples is essential to verify the origin and traceability of raw materials as well as the verification of cleaning processes in production lines. Bio-Rad™ ID-Check Speciation Kits are designed for reliable, specific, and sensitive detection.

ID-Check Speciation Kits are:

- **Available for 8 species** — bovine, chicken, duck, goat, horse, sheep, swine, and turkey meat
- **Ready to use** — user-friendly extraction and detection kits for same-day results in less than 2 hours
- **Reliable** — detects species-specific mitochondrial DNA (mtDNA). High degradation resistance and copy number relative to nuclear DNA (nuDNA) improves detection
- **High sensitivity** — limits of detection at least 0.01%, enabling detection below required limits
- **High specificity** — 100% specificity across multiple species of meat, seafood, fruits, and vegetables, so you can be confident in your results
- **Includes an internal amplification control (IAC)** — improve confidence by excluding false negatives due to PCR inhibition

Visit bio-rad.com/Speciation for more information.
**Easy-to-Use Workflow**

ID-Check Speciation Kits are designed for use with Invisorb Spin Tissue Mini DNA Extraction Kits for easy sample preparation and testing.

1. Lyse samples.

   - 5–10 sec
   - 1,300 rpm
   - 52°C

2. Bind nucleic acids.

   - 200 µl binding buffer A
   - 10 sec

3. Wash.

   - 550 µl wash buffer
   - 2x
   - 4 min, 13,500 x g to remove ethanol

4. Elute nucleic acids.

   - 50–100 µl elution buffer
   - 20–25°C
   - 3 min
   - 1 min, 13,500 x g

5. Run PCR.

**Additional Materials**

- Food processor
- Spectrophotometer
- Vortexer
- Microcentrifuge
- Analytical balance
- Thermoshaker (capable of 52 ± 1°C and 1,300 rpm)

**Specificity**

All ID-Check Speciation Kits have been tested on diverse sample matrices (Table 1) to ensure specificity. No detectable amplification was obtained with any kit for off-target species.

**Table 1. Tested sample matrices for ID-Check Speciation Kits.**

<table>
<thead>
<tr>
<th>Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meats</td>
<td></td>
</tr>
<tr>
<td>Cow</td>
<td>European wild boar</td>
</tr>
<tr>
<td>Deer</td>
<td>Horse</td>
</tr>
<tr>
<td>Duck</td>
<td>Pig</td>
</tr>
<tr>
<td>Fish and Seafood</td>
<td></td>
</tr>
<tr>
<td>Codfish</td>
<td>Grouper</td>
</tr>
<tr>
<td>Gilthead bream</td>
<td>Monkfish</td>
</tr>
<tr>
<td>Fruits and Vegetables</td>
<td></td>
</tr>
<tr>
<td>Almond</td>
<td>Ginger</td>
</tr>
<tr>
<td>Apple</td>
<td>Hazelnut</td>
</tr>
<tr>
<td>Apricot</td>
<td>Linseed</td>
</tr>
<tr>
<td>Beans</td>
<td>Lupine</td>
</tr>
<tr>
<td>Brazil nut</td>
<td>Macadamia nut</td>
</tr>
<tr>
<td>Broccoli</td>
<td>Maize</td>
</tr>
<tr>
<td>Cabbage</td>
<td>Mushroom</td>
</tr>
<tr>
<td>Carrot</td>
<td>Mustard</td>
</tr>
<tr>
<td>Cashew</td>
<td>Nutmeg</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>Oats</td>
</tr>
<tr>
<td>Celery</td>
<td>Onion</td>
</tr>
<tr>
<td>Chives</td>
<td>Parsley</td>
</tr>
<tr>
<td>Cinnamon</td>
<td>Peach</td>
</tr>
<tr>
<td>Coriander</td>
<td>Peanut</td>
</tr>
<tr>
<td>Cumin</td>
<td>Pear</td>
</tr>
<tr>
<td>Garlic</td>
<td>Pecan nut</td>
</tr>
<tr>
<td>Honey</td>
<td></td>
</tr>
</tbody>
</table>

* Depending on the kit being tested.

**Ordering Information**

- **Catalog #**

- **Description**

  - **Instruments**
    - 17007991: CFX Opus Deepwell Real-Time PCR System
    - 17007992: CFX Opus 96 Real-Time PCR System
    - 3600037: CFX96 Touch Deep Well Real-Time PCR System

  - **Speciation Kits**
    - 12019385: ID-Check Swine Speciation Kit
    - 12019393: ID-Check Sheep Speciation Kit
    - 12019403: ID-Check Bovine Speciation Kit
    - 12019404: ID-Check Goat Speciation Kit
    - 12019411: ID-Check Duck Speciation Kit
    - 12019421: ID-Check Chicken Speciation Kit
    - 12019423: ID-Check Horse Speciation Kit
    - 12019431: ID-Check Turkey Speciation Kit

  - **Reagent Kit**
    - 12019412: Invisorb Spin Tissue Mini DNA Extraction Kit

  - **Consumables**
    - 17038941: EZ Micro Test Tubes, 1.5 ml graduated micro test tubes
    - 2240100XTU: 1.5 ml Conical Tubes, screwcap, sterile

Visit [bio-rad.com/Speciation](http://bio-rad.com/Speciation) for more information.

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