Composition

**Va-YSG Medium (100 tests)**
Cat. No. KYO-08901
Vanillic acid added YSG medium for guaiacol formation
2 ml x 100 tubes
Storage: 2-10°C

**Guaiacol Detection Kit (100 tests)**
Cat No. KYO-08921
- Reagent 1: 50 mM Potassium hydrogen phthalate Buffer 60 ml x 2 bottles
- Reagent 2: 1.3% hydrogen peroxide solution 2.5 ml x 1 tube
- Reagent 3: Peroxidase-Phosphoric Acid Buffer 2.5 ml x 1 tube
- Positive Control: Guaiacol (1050 ppm) 2.5 ml x 1 tube
Storage: 2-10°C

References


Ordering Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. No.</th>
<th>Quantity</th>
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<tr>
<td>Va-YSG Medium</td>
<td>KYO-08901</td>
<td>100 PC</td>
</tr>
<tr>
<td>Guaiacol Detection Kit</td>
<td>KYO-08921</td>
<td>100 TEST</td>
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</table>

For research use only, Not for diagnostic use.

Manufacturer: KYOKUTO PHARMACEUTICAL INDUSTRIAL CO., LTD.

www.cosmobio.com
**Alicyclobacillus acidoterrestris (AAT)** is a gram-positive, spore-forming bacillus that occurs widely in nature. This species has been studied substantially after the incident of turbidity of transparent apple juice in 1984. The *Alicyclobacillus* genus bacteria, which peculiarly grow under relatively high temperature and acidic condition, are called Thermo-Acidophilic Bacilli (TAB) 1, 2, 3.

TAB are not destroyed by pasteurization and may remain in final products of fabricated food and beverages. TAB are not only fatal to health but are known to degrade the quality of juices and other products by producing guaiacol, causing off-flavor.

Since it is difficult to avoid and detect contamination of TAB, Niwa et al. have developed an easy test kit to differentiate *Alicyclobacillus acidoterrestris* with productivity of guaiacol.

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**Experimental Procedure**

1. **Sample preparation & Heat treatment**
   - Initial TAB population
   - Add reagents into tube and mix well.
   - Leave on rack for 5 to 10 min.

2. **Incubation**
   - Incubate at 45 ± 1°C for 3 hrs.

3. **Visual Judgement**
   - Check color change of the medium. (within 10 min.)

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**Example of Results**

![Example of Results Image]

- **Brown color indicates contamination of AAT**
- **Negative Control**
- **A. acidoterrestris B2067**
- **A. acidoterrestris ATCC49025**
- **A. acidocaldarius ATCC27009**
- **A. acidocaldarius HP2**
- **A. genomic sp. P2**
- **A. genomic sp. DSM11983**

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**Guaiacol Production of each TAB strain**

<table>
<thead>
<tr>
<th>Guaiacol production</th>
<th>Bacterial species</th>
<th>Strains</th>
<th>Judgement</th>
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</table>
| Negative            | *Alicyclobacillus* | ATCC49025 | +++
|                     | *A. acidoterrestris* | DSM2495 | +++
|                     | *A. cycloheptanicus* | DSM3924 | +++
|                     | *A. hesperidum* | OR3 | +++
|                     | *A. herbarius* | RB1 | +++
|                     | *A. acidiphilus* | RB221 | +++
|                     | *A. herbarius* | RB253 | +++
|                     | *A. herbarius* | RB346 | +++
|                     | *A. herbarius* | TAB-H1 | +++
|                     | *A. herbarius* | B2065 | +++
|                     | *A. herbarius* | B2066 | +++
|                     | *A. herbarius* | B2067 | +++
| Positive            | *A. acidoterrestris* | ATCC49025 | +
|                     | *A. herbarius* | DP1 | +++

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**Scheme of TAB Test**

- **Sample preparation & Heat treatment**
  - Dilute with YSG liquid medium.
  - Adjust pH 3.5 - 4.0.
  - Heat and keep at 70 ± 1°C, 20 min.

- **Incubation**
  - Incubate at 45 ± 1°C for 3 hrs.
  - Heat and keep at 70 ± 1°C, 20 min.

- **Visual Judgement**
  - Check color change of the medium. (within 10 min.)