Foodborne pathogen test kits
by Immuno detection
“NH Immunochromato”

The ‘NH Immunochromato’ is a line of testing kits for easy detection of food poisoning bacteria and toxins in food products. These are used to increase the level of safety in factory produced food items and production lines.

‘NH Immunochromato O157’ has been certified as a Performance Tested Method™ (PTM) by the AOAC Research Institute.
NH Immunochromato includes 8 kits designed for 7 food poisoning bacteria or verotoxin; E. coli O157, E. coli O26, E. coli O111, E. coli O103, verotoxin (VT1/2), Listeria, Campylobacter and Salmonella.

O26, O111, and O103: The only commercially available immunochromatographic assay kits
Verotoxin 1 & 2: Listed in the notice from the Ministry of Health, Labour and Welfare of Japan
Foodborne pathogen test kits
NH Immunochromatography

• Simple and rapid immunochromatographic assays
• One-step assay: Apply enriched samples to test strips
• Results in just 15 minutes
• O26, O111, and O103: The only commercially available Immunochromatographic assay kits in the world
• Used widely in Japan.

Principle of assay
1. When a sample solution is applied to the sample application zone of the test strip, it is wicked through reagent zone.
2. Target pathogen/toxin (1) in the sample binds to the colloidal gold-labeled antibody (2) in the reagent zone.
3. The pathogen-antibody complex flows through the nitrocellulose membrane which contains a zone of antibody specific to target pathogen/toxin.
4. The immune complex is captured and concentrated in the zone (test zone) (3), eventually forms a reddish purple line.
5. The membrane also contains a control zone where the gold-labeled antibody is captured.
6. The control line forms in the control zone (4) regardless of the presence of target pathogen/toxin in the sample solution. The control line ensures the test is working correctly.

Kit contents
A : Test strip 2 tests ×10 packs
B : Instruction manual 1
C : Plastic bag with zipper 1

Additionally required materials and instruments
1. Enrichment broth
2. Stomacher and stomacher bags (preferably with a filter)
3. Autoclave
4. Incubator
5. Balance (capable of weighing 25 g)
6. Disposable plastic transfer pipettes and/or appropriate micro pipettes and disposable tips
7. Timer
8. Disposable polypropylene tubes for sterilization of samples (optional)

Storage and expiration date
1) Storage: Store at 2–8°C under protection from the light. Avoid freezing.
2) Expiration date: 12 months from the date of manufacture.
Comparing operational procedure with culture method (Detection of E.coli O157)

Test procedures (Detection of E.coli O157)

Day 1

Sample Preparation

Sample Enrichment

Day 2

Plating on selective isolation medium

Day 3

Observing selective isolation medium.
Inoculate to characterization medium.

Day 4

Observing characterization medium.
Serotyping.
Test for verotoxin production.

Culture Method

Immunochromatographic assay

Step 1: Sample enrichment
Add enrichment broth to weighed food sample and homogenize. Incubate the homogenized sample at 42°C for 18-24 hours.

Step 2: Application to test strip

Procedure A:
Place a test strip on flat surface and apply 100 µL of the enriched sample to the sample application zone.

Procedure B:
Transfer 150 µL of the enriched sample into a test tube. Put a test strip in the test tube immersing the sample application zone in the sample.

Step 3: Observation of the test results
Read the test result after 15 minutes.

Positive results: Reddish purple lines appear in the test zone and the control zone in 15 minutes after application of sample solutions.
Negative results: A reddish purple line appears in the control zone.

*Invalid results: No reddish purple line appears in the control zone.

NH Immunochromato

<table>
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<tr>
<th>Product</th>
<th>Analytes</th>
<th>Storage</th>
<th>Package Size</th>
<th>Wako Cat. No.</th>
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<td>E. coli O157</td>
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Related Products

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