Singlepath® Campylobacter

For the rapid detection of campylobacter in food

MERCK

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Campylobacter spp. are currently regarded as the leading cause of bacterial gastroenteritis in humans worldwide. There is an increasing demand for testing for Campylobacter in food, but the market is still at a very early stage of development. Strong growth can be expected in the next couple of years. Campylobacter spp. are highly infectious: as few as 500 bacteria can cause illness.

C.jejuni and C.coli are the most common causes of reported cases of human gastroenteritis. The debilitating neurological disorder, Guillain-Barre Syndrome (GBS) as well as reactive arthritis have also been associated with recent infections with certain C.jejuni strains. C.lari and the emerging pathogen, C.upsaliensis, have also been reported in a small percentage of cases of human Campylobacter infection. Infections with C.fetus are less common. They are usually systemic infections, mainly in immunocompromised patients, but have also been associated with abortion in humans.

Campylobacter infections are usually caused by consuming cross-contaminated or insufficiently processed food (typically red meat, poultry, shellfish and unpasteurised milk). Less common are infections as a consequence of eating contaminated fruit and vegetables. In addition, water contaminated with animal and avian faeces, agricultural run-off and sewage effluent can act as sources for infection with Campylobacter bacteria.

The majority of Campylobacter spp. are relatively metabolically inactive, so that the identification based on biochemical characteristics is difficult. Currently the most commonly used techniques to test food products for Campylobacter are traditional methods based on culture media. The standard detection method involves enrichment for 48 hours, followed by isolation on selective agars, so that final identification results are only available after 4-5 days. Both culture steps have to be carried out in a microaerophilic environment. These methods are time-consuming as well as labour-intensive.

The Singlepath® Campylobacter test greatly reduces the time-to-result. Testing is undertaken after a 48 hour enrichment. The test result, obtained with a heat-killed sample, is available after just 20 minutes. The isolation step is no longer necessary. The need for enrichment in a microaerophilic environment can also be eliminated if the sample is enriched in an airtight vessel with a headspace of 10-15 %.

Your benefits

Reliable	As sensitive as the official culture media method (ISO 2002). Provides accurate results: Sensitivity 100%, specificity 100%.
Fast	Result in just 20 minutes.
Ease-of-use	One-step format avoids working errors during handling.
Convenient	Simply add sample and read off the result.
Safe	Clear and distinct positive or negative test results with a built-in positive control.
Economical	Rapid results save labour and inventory costs and reduce labour-intensive plating methods. No capital investment required for example for instrumentation such as automated systems.

Flow-diagram of Singlepath® GLISA Campylobacter test procedure

Selective Enrichment

- Sample 25 g/ml in 225 ml Bolton broth
- Incubate at 37°C for 4 h
- Incubate at 41.5°C for 44 h

Detection

- Resuspend sediment
- Transfer 160 µl to test device and read result after

20 min.

negative		Campylobacter not present
positive		Campylobacter present

Confirmation

If positive result:
Streak onto CCDA agar
for confirmation

Product list

Products	Pack size	Merck Cat. No.	
Bolton broth	500 g	1.00068.0500	Enrichment
Bolton broth selective supplement	16 vials	1.00069.0001	
Anaerocult® C	25 sachets	1.16275.0001	Auxiliaries
Anaerocult® C mini	25 sets	1.13682.0001	
Anaeroclip	25 clips	1.14226.0001	
Anaerobic jar	1	1.16387.0001	
Singlepath® Campylobacter	25 tests	1.04143.0001	Detection
Campylobacter blood free selective agar base (modified CCDA-Preston)	500 g	1.00070.0500	Isolation media
CCDA selective supplement	16 vials	1.00071.0001	

Lateral flow tests
For the rapid detection of pathogens in food

Same safety standard as the classical detection method:
Simple to perform, reliable results in just 20 minutes, considerable savings in time and costs.

Wider product range:
Lateral flow tests detect important pathogens in food: E.coli 0157, Verotoxin-producing E.coli, Salmonella, Campylobacter and Listeria.

Additional plus:
Especially adapted media for precise and reliable results.

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