

## PRODUCT INFORMATION

**Product Type:** Divided Petri Dishes 90mm (DD)

# Cat No. DD088 - CHROMAGAR CAMPYLOBACTER / CAMPYLOBACTER B.F

### Intended Use:

#### CHROMagar™ Campylobacter

is a selective chromogenic culture medium intended for use in the qualitative direct detection, differentiation and presumptive identification of thermotolerant *Campylobacter*. The test is performed with rectal swabs and stools, to aid in the diagnosis of *Campylobacter* infections. Results can be interpreted after 36-48 h of micro-aerophilic incubation at 42 °C. Concomitant cultures are necessary to recover organisms for further microbiological testing or epidemiological typing. A lack of growth or the absence of colonies on CHROMagar™ Campylobacter does not preclude the presence of *Campylobacter*.

CHROMagar™ Campylobacter is not intended to diagnose infection nor to guide nor monitor treatment for infections.

CHROMagar™ Campylobacter can also be used in the detection of *Campylobacter* in the analyses of food products for human consumption, animal feed and in environmental samples in accordance with the ISO 10272-1.

#### Campylobacter Blood-Free Selective Medium

for the isolation of *Campylobacter jejuni*, *Campylobacter coli* and *Campylobacter laridis*.

### Principle and Uses:

*Campylobacter* species have been known for many years but the clinical significance as a major organism that causes gastro-intestinal infections is now recognized.

*Campylobacter jejuni* is a micro-aerophilic organism which is easily masked by other microorganisms found in the gastro-intestinal tract, thus rendering isolation difficult in routine clinical laboratories.

#### CHROMagar™ Campylobacter:

*Campylobacter spp.* are fastidious bacteria that may be difficult to recover due to suboptimal specimen transport and/or storage conditions and lack of proper culture procedures. Several culture media formulations have been developed, some blood-based other including charcoal.

Each of these media have shown to be a mediocre compromise between specificity and sensitivity. With CHROMagar™ Campylobacter, no compromises! This medium ally the highly specific and easy to read chromogenic technology with an unrivalled growth agar base.

#### Specimen Collection and Handling

CHROMagar™ Campylobacter can be used with the following specimens:

**Clinical:** Rectal swabs and stools.

**Industrial:** Food and feed products, environmental samples.

Sampling and transport equipment must be used in accordance with the recommendations of their suppliers for the conservation of *Campylobacter* strains.

#### Inoculation

Related samples are inoculated by direct streaking on the plate, as well as prior appropriate enrichment step.

- If the agar plate has been refrigerated, allow to warm to room temperature before inoculation.
- Streak sample onto plate.
- Incubate at 42 °C for 36 - 48 h in micro-aerophilic conditions.

## Interpretation

Qualitative reading and interpretation of the petri dishes

Microorganism Typical colony appearance

*Campylobacter coli* → red

*Campylobacter jejuni* → red

*Campylobacter lari* → red

Most other microorganisms → blue or inhibited

## Limitations And Complementary Tests

- Final identification may require complementary tests such as hippurate hydrolysis, directly from the plate.
- Other final identification tests can be done from a subculture on blood agar (oxydase, acetate test, ...).
- *C. fetus* might not grow in this medium.

## Campylobacter Blood-Free Selective Medium

Modified CCDA Medium is based on the original formulation described by Bolton et al.<sup>1</sup> which was developed to replace blood with charcoal, ferrous sulphate and sodium pyruvate. Improved selectivity was achieved when cephazolin in the original formulation was replaced by cefoperazone as the selective agent<sup>2</sup>. More recent work has shown an increased isolation rate can be achieved if the plates are incubated at 37°C rather than 42°C<sup>3</sup>.

Amphotericin B has been added to the formula to suppress the growth of yeast and fungal contaminants that may occur at 37°C. the value of enrichment media for *campylobacters* is controversial but in food and environmental studies enrichment may be essential.

The addition of vancomycin enhances inhibition of Gram-positive bacteria (e.g., *Staphylococcus*, *Enterococcus*).

## References

1. Bolton, F.J., Hutchinson, D.N. and Coates, D. (1984) J. Clin. Microbiol. 19, 169-171.
2. Hutchinson, D.N. and Bolton, F.J. (1984) J. Clin. Path. 34, 956-957
3. Bolton, F.J., Hutchinson, D.N. and Parker, G. (1988) Eur. J. Clin. Microbiol. Infect. Dis. 7. 155-160.

The colonial morphology of campylobacters can be used as a guideline for identification to species level.

*Campylobacter jejuni* strains produce grey, moist flat spreading colonies. Some strains may have a green hue or a dry appearance, with or without a metallic sheen.

*Campylobacter coli* strains tend to be creamy-grey in colour, moist, slightly raised and often produce discrete colonies. Colonies tend to swarm when initially isolated from clinical specimens.

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## Composition

### CHROMagar™ Campylobacter:

Agar - 15.0 g/L

Peptones and yeast extract - 25.0 g/L

NaCl - 9.0 g/L

Chromogenic and selective mix - 2.2 g/L

Chromogenic and selective mix supplement - 0.21 g/L

### Campylobacter Blood-Free Selective Medium

Nutrient Broth No.2 - 25.0 g/L

(Nutrient Broth No.2: meat extract 10 g/L, Peptone – 10 g/L, Sodium chloride – 5 g/L)

Bacteriological charcoal - 4.0 g/L

Casein hydrolysate - 3.0 g/L

Sodium desoxycholate - 1.0 g/L

Ferrous sulphate - 0.25 g/L

Sodium pyruvate - 0.25 g/L

Agar - 12.0 g/L

Cefoperazone - 32mg/L

Amphotericin B - 10mg/L

Vancomycin – 6 mg/L

**Storage:** 2-8°C

**Appearance:**

**CHROMagar™ Campylobacter:** light amber translucent agar

**Campylobacter Blood-Free Selective Medium:** Opaque black or dark Gray-black

**pH Range:**

**CHROMagar™ Campylobacter:** 7.2 - 7.6

**Campylobacter Blood-Free Selective Medium:** 7.2 - 7.6

**Package contents:** 10 plates in a package

**Exp. Date:** Printed on label and on the item.

**Required materials not supplied:** Laboratory equipment as required.

**Warning and Precautions** - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Petri dishes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Petri Dishes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.

If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation.

Storage Instructions: On receipt, store plates in the dark at 2–8 °C. Avoid freezing and overheating. Do not open until ready to use.

**Waste Disposal**

After interpretation all items should be destroyed by standard incineration methods.

**Performance Testing Results:**

**GPT:** inoculum 10-100 cfu.

**Inhibitory properties:** inoculum 10000 cfu.

TEST	ATCC	Incubation Temp. (°C)	Incubation Cond.	Reaction 1 CHROM. CAMPYL O		Reaction 2 CAMPYLO BF	
<i>Campylobacter jejuni</i>	33291	41-43 °C	Microaerophilic, 48 hours	Growth	Red	Growth	Translucent non-coalescent
<i>Enterococcus faecalis</i>	19433	41-43 °C	Microaerophilic, 48 hours	Inhibited		Inhibited	
<i>Staphylococcus aureus</i>	25923	41-43 °C	Microaerophilic, 48 hours	Inhibited		Inhibited	
<i>Escherichia coli</i>	25922	41-43 °C	Microaerophilic, 48 hours	Partially inhibited		Inhibited	
<i>Proteus mirabilis</i>	4630	41-43 °C	Microaerophilic, 48 hours	Partially inhibited		Inhibited	
<i>Candida albicans</i>	10231	41-43 °C	Microaerophilic, 48 hours	Inhibited		Partially Inhibited	

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