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MAST® *ID*
MAST® CAMP-ID IDENTIFICATION SYSTEM

CAMP-ID

Intended use
A 3-test biochemical system for the presumptive identification of thermophilic *Campylobacter* spp.

FOR IN VITRO DIAGNOSTIC USE ONLY

Contents
1. Urease Test (URE). Ten grey-cap tubes with lyophilised reagents.
2. Indoxyl Acetate Test (IA). Ten white-cap tubes with swabs impregnated with indoxyl acetate.
3. Hippurate Hydrolysis Test (HIP). Ten black-cap tubes with lyophilised reagents.
4. Ninhydrin Developing Reagent. One dropper bottle.

Storage and shelf life
Store at 2 to 8°C in the containers provided until the expiry date shown on the pack label. Allow to equilibrate to room temperature before opening.

Precautions
For *in vitro* diagnostic use only. Observe approved biohazard precautions and aseptic techniques. To be used only by adequately trained and qualified laboratory personnel. Sterilise all biohazard waste before disposal. Refer to Product Safety Data sheet. Ninhydrin stains and is highly flammable.

Materials required but not provided
Standard microbiological supplies and equipment such as loops, MAST® culture media, swabs, applicator sticks, microaerobic facilities, incinerators and incubators, etc., as well as serological and biochemical reagents and additives such as blood.

Procedure
1. Make a suspension of organism equivalent to McFarland standard no. 5 in sterile water, performing the test immediately after formation. Organisms should be taken from fresh pure cultures grown on selective media, e.g. MAST® Preston Blood Free Agar (DM251D/SV18).
2. Add 0.5 mL of the bacterial suspension to the urease and Hippurate tests. Re-cap to seal the tubes and shake well to ensure that the reagents are suspended. Incubate at 35 to 37°C for 4 hours.
3. Remove the swab from the Indoxyl Acetate tube, dip in sterile deionised water then use it to scrape several colonies from the plate. Replace, re-cap and incubate at 35 to 37°C for 30 minutes.
4. After 4 hours incubation add 2 drops of Ninhydrin Developing Reagent onto the surface of the Hippurate tube to form a layer**.**
   Do not shake the tube. Seal the tube and leave at room temperature for 10 to 15 minutes.

Interpretation of results
Note colour changes in tubes and interpret results as shown in the table below;

	Positive	Negative
Indoxyl Acetate	Colour change of swab to blue	No colour change
Urease	Colour change to pink	No colour change
Hippurate	Colour change to bright purple	No colour change

To identify clinical isolates the following table should be used. These thermophilic enteropathogenic strains of *Campylobacter* represent about 99% of clinical isolates.

Organism	Hippurate	Indoxyl Acetate	Urease
C. jejuni (all subsp.)	+	+	-
C. coli	-	+	-
C. lari	-	-	-
C. lari (UPTC)	-	-	+
C. upsaliensis *	-	+/w+	-

* Check catalase reaction. *C. upsaliensis* are catalase negative or give weak results

Quality control
Check for signs of deterioration. Quality control must be performed with at least one organism to demonstrate a positive reaction and at least one organism to demonstrate a negative reaction. Do not use the product if the reactions with the control organisms are incorrect. The list below illustrates a range of performance control strains which the end user can easily obtain.

Test Organisms	Hippurate	Indoxyl Acetate	Urease
Campylobacter coli ATCC® 33559	-	+	-
Campylobacter jejuni ATCC® 29428	+	+	-

Limitations
Many organisms apart from campylobacters will give a positive result with the above tests. Ensure that cultures exhibit typical *Campylobacter* cell morphology and are Gram negative and oxidase positive.

References
Bibliography available on request.

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