

Christensen Urea Agar

Medium for the differentiation of urea-metabolizing microorganisms, according to ISO 6579, ISO 10273, ISO 19250, ISO 21567.

TYPICAL FORMULA*	(g/l)
Peptone	1.0
Glucose	1.0
Sodium Chloride	5.0
Potassium Dihydrogen Phosphate	2.0
Phenol Red	0.012
Urea	20.0
Agar	15.0
Final pH 6.8 ± 0.2	

*Formula may be adjusted and/or supplemented as required to meet performance specifications

DESCRIPTION

Christensen Urea Agar is a differential medium used for determining urease activity and for identification of organisms from clinical specimens and other samples.

The medium complies with the requirements of the standards ISO 6579-1, ISO 10273, ISO 19250, ISO 21567 and ISO 11133.

PRINCIPLE

Peptone provides nitrogen, carbon, vitamins, minerals and essential amino acids for microorganisms growth. Glucose is the fermentable carbohydrate. Sodium chloride maintains the osmotic balance of the medium. Potassium phosphate is the buffer. Phenol red is the pH indicator. Urea is the substrate for the determination of urease activity. Agar is the solidifying agent.

TECHNIQUE

Use a heavy inoculum from a pure 18-24 hours culture. Inoculate by streaking over the entire agar surface. Incubate under aerobic atmosphere at 37 ± 1°C for up to 24 h (ISO 6579-1) or at 30 ± 1°C for 24 ± 2 h (ISO 10273).

NOTES: The reaction is often apparent after 2-4 hours. An incubation period longer than 24 hours can lead to a not specific alkalization of the medium. Some pathogenic *Y. enterocolitica* strains can need up to 7 days for positive reaction to develop.

INTERPRETATION OF RESULTS

Urease-producing microorganisms hydrolyse urea yielding ammonia which in turn changes the colour of the medium from orange to pink.

Proteus species usually complete the reaction in 4-5 hours and therefore can be easily differentiated from weaker urease-producing organisms such as *Klebsiella* and *Enterobacter* spp.

Typical *Salmonella* cultures do not hydrolyze urea so that the colour of the medium will remain unchanged.

STORAGE

Store at 2-8°C away from light. Do not use the product beyond its expiry date on the label or if product shows any evidence of contamination or any sign of deterioration.

WARNING AND PRECAUTIONS

For In Vitro Diagnostic use. For professional use only. Operators must be trained and have certain experience in the laboratory methods. Please read the instructions carefully before using this product. Reliability of assay results cannot be guaranteed if there are any deviations from the instructions in this document.

Consult the Safety Data Sheet (SDS) for information regarding hazards and safe handling practices.

DISPOSAL OF WASTE

Disposal of waste must be carried out according to the national and local regulations in force.

REFERENCES

1. EN ISO 11133:2014+Amd1:2018+Amd2:2020. Microbiology of food, animal feed and water – Preparation, production, storage and performance testing of culture media.
2. ISO 6579-1:2017. Microbiology of the food chain – Horizontal methods for the detection, enumeration and serotyping of *Salmonella* – Part 1: Detection of *Salmonella* spp.
3. ISO 10273:2017. Microbiology of the food chain — Horizontal method for the detection of pathogenic *Yersinia enterocolitica*
4. ISO 19250:2010. Water quality — Detection of *Salmonella* spp.
5. ISO 21567:2004. Microbiology of food and animal feeding stuffs — Horizontal method for the detection of *Shigella* spp.
6. Maslen, L.G.C. (1952) Brit. Med. J. 2:545-546.
7. Christensen, W.B. (1946) J. Bact. 52:461-466.



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PRODUCT SPECIFICATIONS

NAME

Christensen Urea Agar

STORAGE

2-8°C

pH OF THE MEDIUM

6.8 ± 0.2

USE

Christensen Urea Agar is a differential medium used for detection of urea hydrolysis by ammonia production, according to ISO 6579-1, ISO 10273, ISO 19250, ISO 21567 and ISO 11133

SHELF LIFE

6 months

QUALITY CONTROL

Appearance of Medium: Orange

Expected Cultural Response

Inoculum: Direct inoculation








Incubation: 18-24 h/ 37 ± 1°C

Control strains		Characteristic reactions
<i>Proteus mirabilis</i>	WDCM 00023 (ATCC® 29906, NCTC 11938)	Colour change to pink (positive reaction)
<i>Klebsiella pneumoniae</i>	WDCM 00097 (ATCC® 13883, NCTC 9633)	
<i>Escherichia coli</i>	WDCM 00013 (ATCC® 25922, NCTC 12241)	No change of colour (negative reaction)
<i>Salmonella</i> Typhimurium	WDCM 00031 (ATCC® 14028, NCTC 12023)	
<i>Salmonella</i> Enteritidis	WDCM 00030 (ATCC® 13076, NCTC 12694)	
<i>Shigella sonnei</i>	WDCM 00127 (ATCC® 29930, NCTC 12984)	
<i>Shigella flexneri</i>	WDCM 00125 (ATCC® 9903, NCTC 13631)	

PACKAGING

Ref. 10064 90 mm Plate 20 (2x10) plates

TABLE OF SYMBOLS

LOT	Batch code	IVD	In Vitro Diagnostic medical device		Manufacturer		Use by		Fragile, handle with care
REF	Catalogue number		Temperature limitation		Contains sufficient for <n> tests		Caution, consult instructions for use		Do not reuse



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