

Urea Argar Base (Christensen)

For the differentiation on enteric bacilli on the basis of urease production

Formula in grams per liter:

Gelatin Peptone	1,00	Dextrose	1,00
Sodium Chloride	5,00	Monopotassium Phosphate	2,00
Urea	20,00	Phenol Red	0,012

Final pH: 6,8 ± 0,2 at 25 °C

Preparation:

Dissolve 29 grams of the medium in 100 ml. of distilled water. Sterilize by filtration. Separately dissolve 15 grams of agar in 900 ml. of distilled water by boiling. Sterilize in autoclave at 121°C (15 lbs.sp) for 15 minutes. Cool to 50°C and add to the 100 ml. of the sterile Urea Agar Base. Mix well and dispense aseptically in sterile tubes. Leave the medium to set in a slanted position so as to obtain deep butts. At a pH of 6.8 to 7.0 the solidified medium should have a light pinkish yellow colour. Do not remelt the slanted agar.

Uses:

Urea Agar Base may be used as an aid in the differentiation of microorganisms, particularly enteric gramnegative *bacilli*, on the basis of urea hydrolysis.

The solid medium is used to differentiate enteric bacilli on the basis of urea decomposition. *Proteus*, some paracolons, and a few other organisms give a positive (purple) reaction.

To obtain good results, inoculate heavily over the slant as the speed of the reaction depends on the relation of organism amount and medium surface. Do not inoculate the butt of this medium as it is used as a negative color control. A positive test is denoted by a change in color, due to ammonia production, from pinkish yellow to a deep purple or bluish red on the slant surface. Observations of the tubes should be made at 2-4 hours. Re-incubate all negative cultures daily for up to 7 days for positives such as *Brucella*.

Microbiological Tests:

Microorganisms	Growth	Urease
<i>Enterobacter aerogenes</i> ATCC 13048	Satisfactory	-
<i>Escherichia coli</i> ATCC 25922	Satisfactory	-
<i>Klebsiella pneumoniae</i> ATCC 13883	Satisfactory	+
<i>Proteus vulgaris</i> ATCC 13315	Satisfactory	+
<i>Salmonella typhimurium</i> ATCC 14028	Satisfactory	-

