

Product Information

U1757 Urea Agar Base (Christensen)

Urea Agar Base with the addition of Urea is recommended for the detection of urease production, particularly by members of the genus *Proteus*.

Composition:

Ingredients	Grams/Litre
Peptic Digest of Animal Tissue	1.0
Dextrose	1.0
Sodium Chloride	5.0
Disodium Phosphate	1.2
Monopotassium Phosphate	0.8
Phenol Red	0.012
Agar	15.0
Final pH 6.8 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder in a dry place in tightly-sealed containers at 2-25°C.

Appearance: Light pink colored, homogenous, free flowing powder.
Gelling: Firm
Color and Clarity: Yellowish orange colored, clear gel forms in tubes as slants

Directions:

Dissolve 24 g of Urea Agar Base (Christensen) in 950 ml of distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 10 lbs. pressure (115°C) for 20 minutes. Cool to 50°C and aseptically add 50 ml of sterile 40% Urea Solution (Product number 08582) to the agar base. Mix well and dispense into sterile tubes and allow to set in the slanting position. Do not overheat or reheat the medium as urea decomposes very easily.

Procedure:

Slants are inoculated with a heavy inoculum. When urea is utilized, ammonia is formed during incubation which makes the medium alkaline, and in turn causing a pink-red color change in the phenol red indicator. Prolonged incubation may cause changes in the medium because of the alkaline conditions. Check using a medium without urea as the negative control.

Principle and Interpretation:

Urea Agar Base is formulated in accordance with the Christensen formulation. Christensen observed that the addition of peptic digest of animal tissue, dextrose and a reduced content of buffer helps to support luxuriant growth.

Cultural characteristics after 18-24 hours at 35°C.

Organisms (ATCC)	Growth	Urease
<i>Enterobacter aerogenes</i> (13048)	+++	-
<i>Escherichia coli</i> (25922)	+++	-
<i>Proteus vulgaris</i> (13315)	+++	+
<i>Salmonella typhimurium</i> (14028)	+++	-

Key for Urease: + = positive, pink-red color media
- = negative, no change

References:

1. Christensen, W.B., (1946). J. Bact. 52, 461.
2. MacFaddin, J., (1980). Biochemical Tests for Identification of Medical Bacteria. 2nd Edition. Williams and Wilkins. Baltimore, Maryland.
3. American Type Culture Collection, Manassas, Va. U.S.A