

Peptone Water

Peptone Water is used as a growth medium and as a base for carbohydrate fermentation media.

REF: BS.1/PW01.100.0100	100 Gram	REF: BS.1/PW01.250.0250	250 Gram
REF: BS.1/PW01.500.0500	500 Gram		

CLINICAL SIGNIFICANCE

Peptone Water is particularly suitable as a substrate in the study of indole production. Peptone used in Peptone Water is rich in tryptophan content. Presence of indole can be demonstrated using either Kovacs or Ehrlich reagent. Peptone Water is also utilized as a base for carbohydrate fermentation studies with the addition of sugar and indicators such as bromocresol purple, phenol red or bromothymol blue. Peptone Water is recommended (3,6,7) for studying the ability of an organism to ferment a specific carbohydrate which aid in differentiation of genera and species. Peptone water is formulated as per Shread, Donovan and Lee (9). Peptone Water with pH adjusted to 8.4 is suitable for the cultivation and enrichment of *Vibrio* species.

METHOD PRINCIPLE

Peptone provides nitrogenous and carbonaceous compounds, long chain amino acids, vitamins provides essential nutrients. Sodium chloride maintains the osmotic balance of the medium. To study the fermentation ability of carbohydrates, saccharose, rhamnose, salicin are generally added in 0.5% amount separately to the basal medium before or after sterilization. The acidity formed during fermentation can be detected by addition of phenol red indicator, which shows a colour change of the medium from red to yellow under acidic conditions. If desired, Durham's tube may be used to detect the gas production if produced.

MEDIA COMPOSITION

Item	Formula per liter of medium
- Peptone	10.00 gm.
- Sodium chloride	5.000 gm.

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.
 - S56:** dispose of this material and its container at hazardous or special waste collection point.
 - S57:** use appropriate container to avoid environmental contamination.
 - S61:** avoid release in environment.

For further information, refer to the Peptone water material safety data sheet.

STORAGE AND STABILITY

BioScien Peptone water dehydrated media are stable until expiration date stated on label when properly stored 10-30°C. The prepared medium should be stored at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Final pH 7.2 ± 0.2 at 25°C

MEDIA PREPARATION

- Suspend 15 grams in 1000 ml distilled water.
- Add the test carbohydrate in desired quantity and dissolve completely.
- Adjust pH to 7.2 ± 0.2 at 25°C
- Dispense in tubes with or without inverted Durhams tubes
- Sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 minutes.

Deterioration

The color of **BioScien** Peptone water is Cream to yellow homogeneous free flowing powder. If there are any physical changes, discard the medium.

The hydrated medium is Light amber coloured clear solution without any precipitate, media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), and contaminations.

Type of specimen

Clinical samples








EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile test tubes
- Sterile Durham tubes
- Incubator

PERFORMANCE CHARACTERISTICS

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Test Organisms	Growth	Indole test
<i>Staphylococcus aureus</i> <i>subsp. aureus</i> ATCC 25923	Luxuriant	negative reaction, no red ring at the interface of the medium on addition of Kovac's reagent
<i>Escherichia coli</i> ATCC 25922	Luxuriant	positive reaction, red ring at the interface of the medium on addition of Kovac's reagent
<i>Salmonella Typhimurium</i> ATCC 14028	Luxuriant	negative reaction, no red ring at the interface of the medium on addition of Kovac's reagent

SYMBOLS IN PRODUCT LABELLING		
IVD	For in-vitro diagnostic use	 Number of <n> test in the pack
LOT	Batch Code/Lot number	 Caution
REF	Catalogue Number	 Do not use if package is damaged
	Temperature Limitation	 Consult Instruction for use
	Expiration Date	
	Manufactured by	

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact **BioScien** technical support.

REFERENCES

1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
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5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
6. Lennette and others (Eds.), 1985, Manual of Clinical Microbiology, 4th ed, ASM, Washington, D.C.
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8. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
9. Shread P., Donovan T.J, and Lee J.V, (1981), Soc. Gen. Microbiol. Q., 8, 184.
10. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.