67362 Alkaline saline peptone water (Alkaline peptone water with 2% sodium chloride; ASPW)

Liquid culture medium for the pre-enrichment and selective enrichment of potencially enteropathogenic *Vibrios*, in food samples, according to ISO 21872-1:2017 standard.

Composition:

Ingredients	Grams/Litre
Peptone	20.0
Sodium chloride	20.0

Final pH 8.6 +/- 0.2 at 25°C

Store granulated media below 30°C in tightly closed container and the prepared medium at 2- 8°C. Use before expiry date on the label.

Appearance(color): Cream to yellow homogenous, free flowing powder
Color and Clarity: Light yellow coloured clear solution without any precipitate

Directions:
Dissolve 40 g of the powder in a litre of distilled water, heating if required. Distribute into suitable containers and sterilize in an autoclave at 121°C for 15 minutes.

Principle and Interpretation:
Vibrio have played a significant role in human history. Outbreaks of cholera, caused by *Vibrio cholera*, can be traced back in time to early recorded descriptions of enteric infections. *Vibrio* species are mainly responsible for causing cholera and food poisoning in humans. *V. cholerae* are halophilic, highly motile, curved, Gram-negative rods. While *V. cholerae* is a natural member of aquatic environments, only a small portion of environmental *V. cholerae* is capable of causing cholera. *Vibrio parahaemolyticus* is a major cause of food borne infections, causing food poisoning (2). Since *Vibrio* species naturally occur in sea water, worth special mention is their need for sodium chloride, although some species can grow with minimum sodium chloride concentration (1). The widely used media for *Vibrio* isolation are TCBS Agar and Alkaline Peptone Water (3).
Alkaline Saline Peptone Water (ASPW) is in accordance with ISO 21872-1:2017 specifies a horizontal method for the detection of the two main pathogenic *Vibrio* species causing intestinal illness in humans: *V. parahaemolyticus* and *V. cholera* (6). It is applicable to products intended for human consumption and the feeding of animals, and environmental samples in the area of food production and food handling.
Alkaline Saline Peptone Water (ASPW) was first formulated by Shread, Donovan and Lee(4) to be used as a non-selective enrichment broth for the cultivation of *Aeromonas* species. Cruickshank reported that the raised pH of the medium could be used to effectively cultivate *Vibrio* species(5) .
Peptone act as a source of nitrogenous , carbonaceous and other essential nutrient required for the organisms. High NaCl concentraion inhibits accompanying microflora alongside maintianing the osmotic balance.

Cultural characteristics observed after an incubation at 35-37°C for 24 hours.

Organisms (ATCC)	Inoculum	Growth
Vibrio cholerae (15748)	50-100	+++
Vibrio parahaemolyticus (17802)	50-100	+++

References:

1. Thompson et al (ed.). 2006. The Biology of Vibrios, ASM Press, chapter 1, pg 3.
2. Alcamo. E.I, 2001. Fundamentals of Microbiology, 6th ed, Jones and Bartlett Publishers, Inc. pg 254, 244.
3. Clesceri, Greenberg and Eaton (ed.). 1998. Standard M
4. Shread P., Donovan T. J., and Lee J. V. (1991) Soc. Gen. Microbiol. Q. 8:184.
5. Cruickshank R. (1968) Medical Microbiology. 11th ed. Livingstone Ltd, London, UK.
6. ISO 21872-1:2017. Horizontal method for the determination of Vibrio spp. — Part 1: Detection of potentially enteropathogenic Vibrio parahaemolyticus, Vibrio cholerae and Vibrio vulnificus

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.