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Salmonella purification

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1 Works for me dx.doi.org/10.17504/protocols.io.bjjekkje

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ABSTRACT

The United States veterinarian Daniel E Salmon discovered the genus *Salmonella*. *Salmonella* is non-spore forming and it may survive without oxygen. This bacterial strain is mainly associated with animals. *Salmonella* is ubiquitous and may be asymptomatic which has generated great health concern.This bacterium is associated with life threatening diseases among human and animals.Gastroenteritis is one such disease which may resolve itself within five days in healthy individuals.Immuno compromised individuals and the young are at great risk as this may progress to secondary systemic complication.

Salmonella serotype exceeds two thousand which may be differentiated from each other by the International Kauffmann-white Scheme Serotyping Manual.Surface antigens produced by salmonellae are used in the determination of isolated strain.Determination of the “O” antigen group associated with the carbohydrate constituent of the lipopolysaccharide membrane of the bacterium precede the identification of the protein “H” antigen which is linked to the tail like flagella of the bacterium.The two existing phases of *Salmonella*may be referred to as specific and nonspecific which function as motile and non motile phases.The existing phase of *Salmonella*will determine the “H” antigens that are produced.An additional “Vi” antigen is associated with virulent encapsulated strains of *Salmonella* Typhi.

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MATERIALS

NAME	CATALOG #	VENDOR
Remel™ Rappaport-Vassiliadis Salmonella Enrichment Broth	R455432	Thermo Fisher

SAFETY WARNINGS

The risk associated with a particular microbe can be consulted in the following website of the CDC. (http://www.cdc.gov/biosafety/publications/BiologicalRiskAssessmentWorksheet.pdf)

1 A 1:9 Salmonella suspension was made in buffered peptone water and incubated overnight at 37ºC.

2 One ml of pre-enrichment broth was transferred to a 1.5 ml micro-centrifuge tube and centrifuged for ten minutes at 14,000 x g (Eppendorf Model 5424).

3 The supernatant was carefully discarded.

4 The pellets were re-suspended in 300 µl sterile PCR grade water by vortexing.

5 The tube was again centrifuged at 14,000 x g for five minutes.

6 The supernatant was discarded with care.

7 The pellets were again resuspended in 300 µl PCR grade water by vortexing.

8 The microcentrifuge tube was incubated at 100ºC for 15 minutes and immediately chilled on ice.

9 The tube was centrifuged at 14,000 x g at 4ºC.

10 The supernatant was transferred to a new tube and incubated at 10 min at 100ºC then chilled immediately on ice.

11 The supernatant was stored at -20 ºC.

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