Sulfide Indole Motility Medium, SIM | AS-1347

Used to differentiate enteric *bacilli* based on sulfide production, indole formation and motility.

SIM (Sulfide Indole Motility) medium is a a differential culture medium which is used for distinguishing between *Enterobacteriaceae* members based on important biochemical characteristics: motility, indole production, and sulfide generation.

Peptones provide nitrogen to the medium, sodium thiosulfate provides sulfur, and ferric ammonium citrate serves as a sulfide production indicator. Agar at a low concentration produces a semi-solid consistency that makes motility visible.

Black precipitates that are produced when hydrogen sulfide reacts with ferric ions are signs of sulfide production. The addition of Kovacs' reagent, which turns red when indole is present, determines the amount of indole produced. Diffuse growth away from the inoculation line is indicative of motility.

Composition (gr/L)	
Enzymatic Digest of Casein	20
Enzymatic Digest of Animal Tissue	6.1
Ferric Ammonium Citrate	0.2
Sodium Thiosulfate	0.2
Agar	3.5
Final pH at 25°C	7.3 ± 0.2

Preparation

Dissolve 30 g of the powder into 1 liter distilled water. Mix well. Autoclave at 121°C for 15 min.

Quality Control

Dehydrated Appearance: Fine, homogeneous, free of extraneous material.

Prepared Appearance: Light to medium, yellow to tan, clear to slightly hazy.

Reaction of 3.0% Solution at 25°C: pH 7.3 ± 0.2

Microbial Test Results

Inoculate using heavy inocula of fresh cultures and incubate at 35 ± 2°C for 18 to 24 hours.

Organism (ATCC)	**Recovery**	**Motility**	**H_2S**	**Indole**
Escherichia coli (25922)	Good	+	-	+
Salmonella enterica (13311)	Good	+	+	-
Shigella sonnei (9290)	Good	-	-	-

Storage

Keep the container at 15-30 °C and prepared medium at 2-8 °C.