**Lysine Iron Agar**

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| **Product No.** | **Product Category** | **Specification** |
| HCM168 | Dehydrated Culture Medium | 500g/bottle |

**Intended Use**

Based on lysine decarboxylation and hydrogen sulfide production tests, used for the identification of *Salmonella*, especially *Salmonella Arizona*.

**Principle and Interpretation**

Dextrose serves as a source of fermentable carbohydrate. Peptone serves as a source of nitrogen. Yeast Extract provide vitamins and growth factors. The pH indicator, bromocresol purple, is changed to a yellow color at or below pH 5.2 and is purple at or above pH 6.8. Ferric ammonium citrate and sodium thiosulfate are indicators of hydrogen sulfide formation. Lysine is the substrate for use in detecting the enzymes, lysine decarboxylase and lysine deaminase.

**Formulation**

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| **Ingredients** | **/liter** |
| Peptone | 5.0 g |
| Yeast Extract | 3.0 g |
| Dextrose | 1.0 g |
| L-Lysine HCl | 10.0 g |
| Ferric Ammonium Citrate | 0.5 g |
| Sodium Thiosulfate | 0.04 g |
| Bromocresol Purple | 0.02 g |
| Agar | 15.0 g |
| pH 6.7±0.2 at 25°C | |

**Preparation**

Suspend 34.5 g in 1 L distilled or deionized water. Heat with frequent agitation and boil to completely dissolve the powder. Autoclave at 121℃ for 12 minutes.

**Quality Control**

Cultural characteristics after 18-48 hours at 33-37°C. (Growth evident by turbidity)

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| **Quality control strains** | **Growth** | **Reaction**  **Slant/bottom** | **H2S** |
| *Salmonella typhimurium* ATCC14028 | Good | Red purple/Red purple | + |
| *Salmonella arizonae* CMCC(B)47001 | Good | Red purple/Red purple | + |
| *Proteus mirabilis* CMCC(B)49005 | Good | Red/yellow | - |
| *Shigella flexneri* ATCC12022 | Good | Red purple/yellow | - |

**Storage and Shelf Life**

Keep container tightly closed, store in a cool, dry place, away from bright light.

Use before expiry date on the label.

**Precautions**

1. When weighing the dehydrated medium, please wear masks to avoid causing respiratory system discomfort

2. Keep container tightly closed after using to prevent clumping.

**Waste Disposal**

Microbiological contamination was disposed by autoclaving at 121°C for 30 minutes.

**Revision**

On August 1, 2024

**References**

Edwards, P. R. , & Fife, M. A. . (1961). Lysine-iron agar in the detection of *arizona* cultures. Applied Microbiology, 9(6), 478.