

Kligler Iron Agar

Catalog : HB6234-5

Kligler Iron Agar is used for the differentiation of members of the Enterobacteriaceae on the basis of their ability to ferment dextrose and lactose and to liberate sulfides.

Approximate Formula:

Ingredients	gm/liter
Peptic Digest of Animal Tissue	20.0
Beef Extract	3.0
Sodium Chloride	5.0
Yeast Extract	3.0
Lactose	10.0
Dextrose	1.0
Ferric Ammonium Citrate	0.5
Sodium Thiosulfate	0.5
Phenol Red	0.024
Agar	12.0
Final pH 7.4±0.2 at 25°C	

*Adjusted and/or supplemented as required to meet performance criteria.

Directions:

Suspend 55.0g of the medium in one liter of distilled or deionized water. Mix well and heat with frequent agitation. Dispense into tubes (3/4 depth of each tube). Sterilize in an autoclave at 121°C (15 lbs) for 15 minutes.

Principle and Interpretation:

Kligler Iron Agar, in addition to peptic digest of animal tissue, yeast extract and beef extract, contains lactose and dextrose which enable the differentiation of species of enteric bacilli due to color changes of the phenol red pH indicator in response to the acid produced during the fermentation of these sugars. The dextrose concentration is only 10% of the lactose concentration. The combination of ferric ammonium citrate and sodium thiosulfate enables the detection of hydrogen sulfide production.

Appearance:

Dehydrated medium is a free-flowing light red powder. The prepared medium is a kind of red gel.

Precautions:

This medium is for laboratory use only. Dried medium which is past shelf life, caking or color variation cannot be used.

Storage conditions and Shelf life:

Kligler Iron Agar must be stored tightly capped in the original container at 5-30°C. The dehydrated medium has a shelf life of 3 years from date of manufacturing. Prepared medium may be stored, out of direct light at 2-8°C.

Quality control:

Prepare the culture medium as per label directions. Inoculate and incubate at 36±1°C for 18-24 hours.

Microorganism	Strains Number	Growth	Slant	Butt	H ₂ S
<i>Escherichia coli</i>	ATCC 25922	luxuriant	Acid	Acid with gas	-
<i>Shigella flexneri</i>	ATCC12022	luxuriant	Alkaline	Acid without gas	-
<i>Proteus vulgaris</i>	ATCC 13315	luxuriant	Acid	Acid with gas	+
<i>Salmonella typhimurium</i>	ATCC 14028	luxuriant	Alkaline	Acid with gas	+
<i>Pseudomonas aeruginosa</i>	ATCC 27853	luxuriant	Alkaline	Alkaline without gas	-

References:

- GB4789.28-2013 People's Republic of China food safety national standard food microbiology test medium and reagent quality requirements.
- Kligler. 1917. Am. J. Public Health. 7:1041.