

MULLER-KAUFFMANN

For microbiological control only

Selective enrichment broth for the detection of *Salmonella***SUMMARY AND EXPLANATION**

Müller-Kauffmann broth's formula corresponds to the one described by Müller, and then modified by Kauffmann. This fluid medium is used as a selective enrichment broth when screening for *Salmonella* in foodstuffs and water.

PRINCIPLE

The medium is composed of sodium thiosulfate that is oxidised into tetrathionate by a solution of iodine/iodide added to the base at the last minute. This contributes to inhibit the growth of coliforms and most of all bacteria belonging to the intestinal flora. *Proteus* and *Salmonella* can reduce tetrathionate and therefore find their intake of sulfur for their growth. Calcium neutralises the formed sulfuric acid in order to prevent any drop of pH levels that might compromise the growth of bacteria.

Brilliant green inhibits the growth of gram positive. Oxgall contributes to the growth of *Salmonella* by slowing down the growth of interfering flora.

CONTENT OF THE KIT

Ready-to-use medium	
REF AEB110702	20 tubes of 10 ml
REF AEB110709	Pack of 100 tubes of 10 ml

COMPOSITION**Theoretical formula.**

This medium can be adjusted and/or supplemented according to the performance criteria required:

Tryptone	7,00 g
Soy peptone	2,30 g
Sodium chloride	2,30 g
Calcium carbonate	25,00 g
Sodium thiosulfate 5H ₂ O	40,70 g
Oxgall	4,75 g
Purified water	1000ml

Caution, this product is **IRRITANT (Xi)** as it contains <50 % Sodium thiosulfate

R36/37/38	Irritating to eyes, respiratory system and skin.
S22	Do not breathe dust.
S24	Avoid contact with skin.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S35	This material and its container must be disposed of in a safe way.
S36/37	Wear suitable protective clothing and gloves.
S51	Use only in well-ventilated areas.

REAGENTS AND MATERIAL REQUIRED BUT NOT PROVIDED**Reagents**

- Buffered peptone water (Ref. 42042 or 42043)
- Rappaport Vassiliadis Soy broth (RVS) (Ref. AEB110869)
- XLD agar (Ref. AEB523399 and AEB 523400)
- ASAP™ agar (Ref AEB520089 and AEB520090) or Hektoen agar (Ref. 43 111), or Brilliant Green Agar Modified EDEL KAMPELMACHER (Ref. AEB521500)

Material

- Bacteriological incubator.

WARNINGS AND PRECAUTIONS

- **For microbiological control only.**
- **For professional use only.**
- This kit contains products of animal origin. Certified knowledge of the origin and/or sanitary state of the animals does not totally guarantee the absence of transmissible pathogenic agents. It is therefore recommended that these products be treated as potentially infectious, and handled observing the usual safety precautions (do not ingest or inhale).
- All specimens, microbial cultures and inoculated products should be considered infectious and handled appropriately. Aseptic technique and usual precautions for handling the bacterial group studied should be observed throughout this procedure. Refer to "CLSI® M29-A, *Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline – Current Revision*". For additional information on handling precautions, refer to "Biosafety in Microbiological and Biomedical Laboratories – CDC/NIH – Latest edition", or the current regulations in the country of use.
- Culture media should not be used as manufacturing material or components.
- Do not use reagents past the expiry date.
- Do not use reagents if the packaging is damaged.
- Do not use tubes which show signs of contamination.
- The medium must be used according to the procedure indicated in this package insert. Any change or modification in the procedure may affect the results.

STORAGE CONDITIONS

- **Store the tubes at 2-8°C in their box until the expiry date.**

CFC supplement can be store 7 days (maximum) at 2-8°C once prepared

SPECIMENS

Follow the recommendations in the current standards to perform specimen collection and preparation.

INSTRUCTIONS FOR USE

1. Inoculate 10 ml (or 20 ml) tubes with 1 ml (or 2 ml) of sample primarily enriched in non selective broth.
2. Homogenise well then incubate at 41-43°C for 18-24 hours or up to 48 hours depending on the procedure carried out.

READING AND INTERPRETATION

After incubation periods, subculture onto an adequate selective agar (ASAP, Hektoën, X.L.D. or modified XLT4).

QUALITY CONTROL

The Müller Kauffman Broth has been designed and developed to meet the strictest quality requirements.

The results obtained using strains tested during controls for bacteriological activity are shown on the quality control certificate for each batch, available from our website (www.biomerieux.com).

LIMITATIONS OF THE METHOD

In order to keep active the selective properties of the complete medium Brilliant green solution must be added to the Müller-Kauffmann base according to the preparation specifications.

Müller-Kauffmann broth contains carbonate calcium that is used as a buffering agent which tends to sediment at the bottom of tubes and flasks. Tubes and flasks have to be homogenised before inoculation. Complete medium has a shelf life of one week.

It is wise to use a second selective broth in parallel to Müller-Kauffmann such as selenite cystine which would be incubated at 37°C or Rappaport Vassiliadis incubated at 42°C.

WASTE DISPOSAL

Unused reagents may be considered as non hazardous waste and disposed of accordingly.

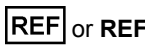







Dispose of all used reagents as well as any other contaminated disposable materials following procedures for infectious or potentially infectious products.

It is the responsibility of each laboratory to handle waste and effluents produced according to their nature and degree of hazardousness and to treat and dispose of them (or have them treated and disposed of) in accordance with any applicable regulations.

LITERATURE REFERENCES

1. Muller L. 1923. Un nouveau milieu d'enrichissement pour la recherche du bacille typhique et des paratyphiques. Comp. rend. Soc. biol. **89**:434-437.
2. Kauffmann F. 1935. Weitere Erfahrungen mit dem kombinierten Anreicherungsverfahren für Salmonellenbacillien. Z. Hyg. Infek. - Krkh. **117**:26-32.
3. Edel W. and Kampelmacher E.H. 1969. Salmonella isolation in nine european laboratories using a standardized technique. Bull. W.H.O. **41**:297-306.

INDEX OF SYMBOLS

Symbol	Meaning
 or REF	GB : Catalogue number US : Catalog number
	Manufacturer
	Temperature limit
	Use by
	Batch code
	Consult Instructions for Use
	Contains sufficient for <n> tests
	Keep away from light

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