

Instructions for Use

REF - BM2110

Kohn's Medium No.1

Bottled Media

1. Intended Use

For *in vitro* diagnostic use. BM2110 Kohn's Medium No.1 is one of two media usually used with Kohn's No 2 (BM2120), to differentiate members of the *Enterobacteriaceae*.

2. Composition*

<u>Ingredient</u>	<u>g/L</u>
Beef extract	2.0
Bacteriological peptone	15.0
Mannitol	10.0
Agar	16.0
Yeast extract	2.0
Glucose	1.0
Phenol red	0.05
Urea solution (40%)	25.0ml

*Adjusted/supplemented as needed to meet performance requirements

3. Summary and Explanation

Kohn ⁽¹⁾ built upon the work of Russel ⁽²⁾ to develop a technique requiring two tubes of media to better differentiate between *Enterobacteriaceae* spp..

4. Principle

Kohn's No. 1 contains mannitol and glucose as substrates and phenol red as the pH indicator. After incubation the production of acid is shown by the medium turning yellow; if fermentation is of glucose only, the butt will have become yellow and the surface of the slope will be red, while if only mannitol is fermented the slope will turn yellow. The production of gas is indicated by bubbles within the medium but can also result in displacement or cracking of the medium within the tube. Urease positive organisms turn the medium bright pink.

5. Physical Characteristics

	<u>Appearance and Colour</u>	<u>pH</u>
Medium	Orange/red firm gel	7.2 ± 0.2

6. Materials Provided

BM2110 can be provided in the formats detailed below. Each bottle is ink-jet printed with (abbreviated) product name, product code, lot number and expiry date.

<u>Product Code</u>	<u>Product Format</u>
BM2110-M013-10	50 x 10ml in (150mm x 16mm) Tubes
BM2110-M013-6	50 x 6ml in (150mm x 16mm) Tubes

7. Materials Needed but not Provided

Standard microbiological laboratory materials e.g., sterile loops or swabs, collection containers, incubators, media for isolation and quality control organisms.

8. Specimens

BM2110 Kohn's Medium No.1 used alongside BM2120 Kohn's Medium No.2 is suitable for the testing of the following specimens:

- Isolates: colonies or sub-cultures from plated media

Sampling and transport equipment must be used in accordance with the end user's suppliers' recommendations. Refer to appropriate standard method or local guidance on sample collection and subsequent processing.

9. Test Procedures and Interpretation of results

Allow the media to come to room temperature.

With an appropriate dilution of isolated colony or subculture, stab inoculate the butt with a 1µl loop and drag it up the slope. It is important to stab the butt of the medium. Failure to stab the butt invalidates this test. The integrity of the agar must be maintained when stabbing. Incubate at 37 ± 1°C for 18-24 hours.

After incubation, examine agar for colour changes and gas production. Biochemical and, if indicated, serological testing using pure cultures may be necessary for complete identification; these tests should be performed from a non-selective agar.

11. Quality Control

Organism	Incubation	Result (Specificity)
<i>P. mirabilis</i> (NCTC 10975)	37 ± 1°C for 18-24 hours.	Medium turns a deep pink colour (Positive urease reaction)
<i>S. typhimurium</i> (NCTC 12023)	37 ± 1°C for 18-24 hours.	Medium turns a yellow colour with gas production (Positive glucose and mannitol fermentation)

It is the responsibility of the user to perform Quality Control testing taking into consideration the intended use of the medium and in agreement with any local relevant guidelines (e.g., frequency, strains used, atmosphere, incubation temperature).

12. Performance

To fully verify BM2110 Kohn's Medium No.1 performance, samples were tested to assess colour change when incubated at 37 ± 1°C for 18-24 hours. All samples showed expected recovery and morphology of the required test organisms: *Proteus mirabilis* (NCTC 10975) and *Salmonella typhimurium* (NCTC 12023). Therefore, it can be concluded that BM2110 Kohn's Medium No.1, meets performance criteria when used according to the instructions outlined above. Trend analysis data available upon request.

13. Limitations of the Media

- Due to natural variation, some strains may grow poorly on this medium.

14. Precautions and Warnings

This product is considered non-hazardous under CLP regulations. Wear such PPE as recommended by laboratory COSHH assessment. During and after use, always handle all materials in a manner conforming to Good Laboratory Practices and consider that material under test should be regarded as a potential biohazard if mishandled.

Refer to E&O Bottled Media Material Safety Data Sheet.

15. Storage conditions and Shelf life

Store BM2110 in the original bottle with the lid tightly closed at between 2 and 30°C. Kept under these conditions it may be used up to date of expiry shown on product label.

Dispose of in accordance with local and national authority requirements. Do not use media if it is contaminated, discoloured or out of date. Additionally, do not use medium if it has been stored inappropriately or the packaging has been damaged.

16. References

- Kohn, J. (1954) A 2-Tube Technique for the Identification of Organisms of the Enterobacteriaceae Group. J Pathol. 67(1), pp. 286-288.
- Russell F. (1911). The Isolation of Typhoid Bacilli from Urine and Feces with the Description of a new Double Sugar Tube Medium. J. Med. Res., 25(1), pp. 217-229.

Version History*

001 28/03/23 - New Document Created

*Note: minor typographical, grammatical, and formatting changes are not included in the revision history.

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TABLE OF APPLICABLE SYMBOLS IFU/BM2110 REV. 001

 REF Catalogue number	 LOT Batch code	 IVD In vitro Diagnostic Medical Device	 Manufacturer	 Use by
 Temperature limitation	 Contents sufficient for <n> tests	 Consult Instructions for Use	 Keep away from direct light	 Store in a dry place