

## H<sub>2</sub>S Medium Kit

### Intended Use

H<sub>2</sub>S Medium Kit is used for simultaneous detection of *Salmonella* and *Citrobacter* from water samples.

### Summary

Hydrogen sulphide can be produced at least in small amounts from sulphur containing amino acids. Some bacteria are capable of breaking down sulphur containing amino acids (cystine, methionine) or reducing inorganic sulphur containing compounds (sulfate, thiosulphate) to produce H<sub>2</sub>S. This reduced sulphur may then be incorporated into other cellular amino acids, or perhaps into coenzymes.

### Principle

The medium incorporates sulphur containing compounds and iron salts. The organisms reduce this sulphur containing compounds to sulphite and H<sub>2</sub>S gas by virtue of a reductive enzyme. Production of H<sub>2</sub>S gas is detected as an insoluble black precipitate of ferrous sulphide formed upon reaction of H<sub>2</sub>S with iron salts. H<sub>2</sub>S Medium Kit is a rapid, portable and reliable field-testing kit for drinking water.

### Reagent

The Micropress® H<sub>2</sub>S Medium Kit comprises of:

1. Sterile bottles with powder: 10 Nos.

### Storage and Stability

1. Store in a cool, dry place at 15°C-25°C away from bright light.
2. Stability of the kit is as per the expiry date mentioned on the label.

### Directions

1. Collect 20 mL water to be tested in sterile disposable bottle.
2. Allow the powder to dissolve and if required shake gently.
3. Incubate the bottle for 24-48 hours at 35°C-37°C.
4. Observe for colour change.

### Interpretation of Results

After incubation, formation of black precipitation indicates H<sub>2</sub>S production. This also indicates the presence of unwanted organisms.

### Quality Control

**Appearance:** Yellow coloured, homogeneous, free flowing powder, in a sterile 20 mL vial.

**On addition of water:** Light amber coloured clear solution obtained on addition of water.

**Cultural Response:** Cultural characteristics observed after an incubation of 24-48 hours at 35°C-37°C.

Organism (ATCC)	Growth	H <sub>2</sub> S Production
<i>Escherichia coli</i> (25922)	Good	-
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar <i>Typhimurium</i> (14028)	Good	+
<i>Citrobacter freundii</i> (8090)	Good	+

**Key:** + = Blackening; - = No Blackening

### Remarks

1. The Micropress® H<sub>2</sub>S Medium Kit is an *In vitro* diagnostic kit for laboratory and professional use only. Not for medicinal use.
2. Sensitivity of a rapid test may be compromised because the bacterial limit sought may be below the minimum bacterial concentration essential to rapid detection.
3. Confirmation and detection of the organisms may be achieved by use of appropriate confirmation media, incubation times and temperature.
4. Clinical samples and microbial cultures should be considered as pathogenic biohazard and handled accordingly. Good laboratory practices and hazard precautions must be observed at all times.

## Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

## Reference

1. The Hydrogen Sulphide Paper Strip Test, Luke M. Mosley and Donald S. Sharp, SOPAC Tech. Report 373 Feb. 2005.
2. National Research Development Corp; Test Kit for Microbiological Quality of Drinking Water.
3. M. Manafi, New approaches for the fast detection of indicators, in particular enzyme detection methods (EDM).
4. OECD Workshop molecular methods for safe drinking water, 1998.
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

## Product Presentation:

Cat. No.	Product Description	Pack Size
204080040001	Ready Prepared Kit	1 Kit (10 Tests)

 Temperature Limit	 Manufacturer	 Catalogue Number	 Date of Manufacture	 Contains sufficient for <n> tests
 Use-by Date	 Consult Instructions for use	 Batch Code	 This way up	 Simultaneous detection of <i>Salmonella</i> and <i>Citrobacter</i> species from water samples

Revision: 0825/VER-03

## Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.