

 **MUTA-CHROMOPLATE™**

Measuring the **Health**
of the **Environment**



MUTA-CHROMOPLATE™

THE PRINCIPLES OF THE MUTA-CHROMOPLATE Reverse Mutation 'Ames Test' KIT

The Muta-ChromoPlate is a 96-well microplate version of the *Salmonella typhimurium* 'Ames Test,' used for detection of mutagenic activity.

The Muta-ChromoPlate provides a clear colour endpoint. Reagents, cultures and other consumable components are supplied ready-to-use in a non-specialized laboratory.

The test employs a mutant strain, or several strains, of *Salmonella typhimurium*, carrying mutation(s) in the operon coding for histidine biosynthesis. When these bacteria are exposed to mutagenic agents, under certain conditions, reverse mutation from amino acid (histidine) auxotrophy to prototrophy occurs.

EXAMPLE APPLICATIONS OF THE MUTA-CHROMOPLATE KIT

- Testing of industrial effluents for presence of possible mutagenic compounds
- Screening of municipal discharges for possible routine presence or spills of mutagenic compounds
- Screening of surface and/or groundwater for mutagenic residues
- Screening of potable water supplies for the presence of chemicals with mutagenic potential
- Screening of water soluble air pollutants for mutagenic reagents
- Evaluation of pure or complex raw mixtures for potential mutagenicity

Each well of the 96 well plate is considered a colony. If the colony reverts back to the natural state, a mutation has occurred. If a reverse mutation has occurred, the bacteria in the colony have the ability to synthesize histidine and will continue to grow turning the colour in the well from purple to yellow. The Muta-ChromoPlate kit (as with the traditional 'Ames Test') compares the natural background rate of reverse mutation to a rate of reverse mutation within a sample assay.

THE MUTA-CHROMOPLATE KIT INCLUDES

- Sterile micro-plates with lids
- Sterile multi-channel pipette reagent boats
- Sterile 50ml tubes
- Membrane filter (0.22 µm) unit for sample sterilization
- All bacteria, controls and reagents required.

BASIC KIT INCLUDES:

- 1 Bacterial Strain, Growth Media, Control, Reagents and enough plastics for 12 plates.

BACTERIAL STRAIN KIT INCLUDES:

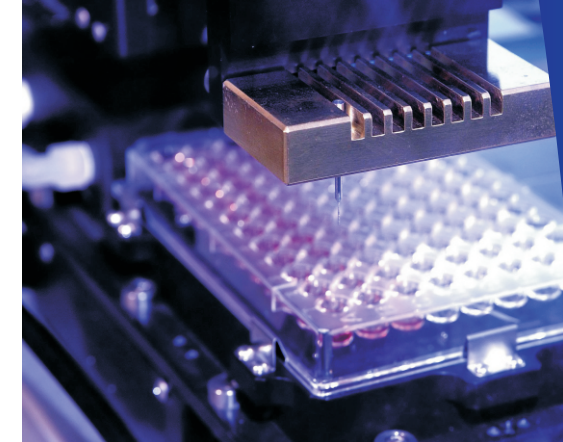
- 2 Bacterial Strains, Growth Media, Controls, Reagents and enough plastics for 24 plates.

MUTA-CHROMOPLATE WP2-TWO STRAIN KIT

Contains both the WP2uvrA and WP2uvrA(pkM101) mutant strains of *E. Coli*.

Reverse mutation to tryptophan prototrophy

Please note: Bacteria and Reagents can be purchased separately.

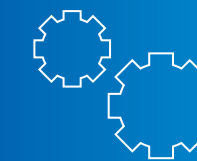


S9 ACTIVATION ENZYMES

As required for reverse mutation bacterial tests, bacteria should be tested in the presence and absence of an appropriate metabolic activation system.

EBPI utilizes the most commonly used system which is a cofactor supplemented post-mitochondrial fraction prepared from the Sprague-Dawley male rat liver.

The rats are treated with the enzyme-inducing agent Aroclor 1254 prior to the extraction of the S9 fraction from livers.



CUSTOM SOLUTIONS

- At EBPI we strive to meet the demands of our clients and their changing requirements.
- For further information: please contact us at www.BioToxicity.com



HIGHSCHOOL SOLUTIONS

Due to the positive feedback at the University and College levels, EBPI has in conjunction with Centennial College developed a synthetic version of the Muta-ChromoPlate 'Ames Test' kit for the highschool classroom setting. The kit includes teacher as well as student manuals as well as real life case studies.

