
ABOUT US

Molecular Toxicology, Inc. is the leading manufacturer of products used in the Salmonella and E. coli WP2 mutagenicity tests. Moltox minimal glucose agar plates, top agars, Salmonella and E. coli tester strains, frozen and lyophilized S9, MUTAZYME™, NADPH-regenerating systems and positive control chemicals are distributed worldwide. Moltox has developed microtiter plate format fluctuation tests consistent with OECD guidelines including Moltox® FT™ tests and distributes the BioReliance Ames II™ test kit.

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Molecular Toxicology, Inc.

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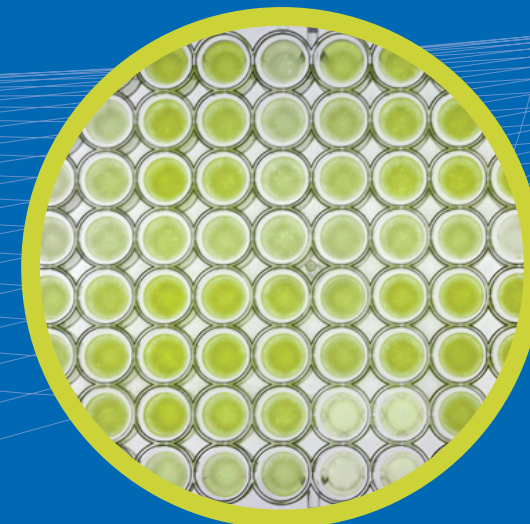
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MOLTOX®
Molecular Toxicology, Inc.

MOLTOX®
UMU Genotoxicity
Test Kit #31-400



MOLTOX[®] UMU Genotoxicity Test Kit

Kit Components

Kit #31-400 includes:

PART # DESCRIPTION

73-1535pSK	PTM [™] <i>Salmonella typhimurium</i> TA1535pSK1002 (2 vials)
26-714.1	TGA Culture Medium (200ml; requires addition of 22-147)
26-715	10X TGA Culture Medium (10ml; requires addition of 22-147)
22-147	Ampicillin (50mg)
26-716	B-buffer (35ml)
26-718	Stop Reagent (30ml)
22-148L	ONPG (2x4.95mg)
22-149	2-Mercaptoethanol (2x100µl)
60-163	4-Nitroquinoline-N-oxide (12.5µg)
60-164	2-Aminanthracene (50µg)
11-401.3L	MUTAZYME [™] 30% S9 Mix (reconstitutes to 3.5ml)

User instructions included



Yellow wells indicate ONPG cleavage by β -galactosidase.

Basis of the Test

The UMU Genotoxicity Test is based on the observation that the *umu* operon of *E. coli* is induced by agents that damage DNA and that are, therefore, potential carcinogens. The test measures the ability of chemical treatments to induce *umu* gene expression in *S. typhimurium* TA1535 in which a pSK1002-containing *umuC-lacZ* fused gene has been introduced (Oda, Y, et.al., Mutat res, 147:219-229, 1985); *umu* gene induction is estimated by analysis of β -galactosidase activity expressed by the fusion gene. The Molttox[®] *umu*-test is conducted in 96-well microplates as described by G. Reifferscheid et. al. (Mutat res, 253:215-222, 1991); application of the method for water and waste water samples is described in ISO 13829. Briefly, an overnight culture of the tester strain is diluted and then grown to a particular cell density. Cells are distributed into 96 well microplates, treated with the material of interest, and incubation continued. After 2 hours, the treated (and control) populations are diluted into a second microplate and incubation continued. ONPG (β -galactosidase substrate) is added to a fraction of the treated cells after transfer to a third microplate containing permeabilizing buffer. Finally, β -galactosidase activity is estimated by measurement of the appearance of ONP using a microplate reader (A_{420}). (Gilbert, RI, Mutat res, 74:283-289, 1980).

Advantages of the Test

- Method widely accepted for analysis of environmental samples – complies with ISO 13829.
- Quantitative and unambiguous colorimetric endpoint – results are easily submitted to statistical analysis.
- Single kit (31-400) contains all the media and reagents necessary to analyze aqueous as well as solid samples – e.g., water, waste water, pure chemicals, solid environmental samples and etc.
- Tests are conducted using activation and non-activation conditions – kit includes ready to use S9 (MUTAZYME[™]).

