

## Genotoxicology Testing - Verifying Phenotype of TA and WP2 Strains

# Phenotype Test Kit #31-600

The MOLTOX® Phenotype Test Kit has been specially designed to confirm all the phenotype characteristics listed by the **OEDC 471 guideline** in any of the E. coli and Salmonella strains used in the Ames test including: Amino-acid requirement, presence/absence of the pKM101 R-factor plasmid, presence/absence of the pAQ1 plasmid, *rfa* deep mutation, *uvrA* and *uvrB* repair deficiency.

- ▶ Test uses a single plate per strain.
- ▶ Takes only a few minutes. Results are available the next day.
- ▶ Performed alongside a standard Ames test using any type of agar.
- ▶ Mitomycin C is used in place of UV light exposure.
- ▶ This kit provides enough material for 6 tests.

The Phenotype Test Kit is manufactured using the highest quality components, material preparation, strain characterization and procedures closely follow formative guidelines. Each batch of materials is thoroughly tested before release and is accompanied by Quality Control and Formulation Statements.



## Principle

Wells 1 – 4 contain Minimal Glucose Agar (MGA) with excess histidine, biotin, and tryptophan. The strain culture is added to each well and a specific phenotype test disc applied to each.

Discs and the characteristic they detect are as follows:

Designation	Disc type	Detects	Genotype
C	Crystal Violet	Sensitivity to crystal violet	<i>rfa</i> deep mutation
A	Ampicillin	Ampicillin resistance	+/- pKM101 R-factor plasmid
T	Tetracyclin	Tetracycline resistance	+/- pAQ1 plasmid
M	Mitomycin C	Sensitivity to mitomycin C <sup>1</sup>	<i>uvrA</i> and <i>uvrB</i> repair deficiency <sup>1</sup>

<sup>1</sup> Traditionally, *uvrA* and *uvrB* repair deficiency is tested via exposure to UV light, a cross-linking agent. Use of mitomycin C, also a cross-linking agent, is used in place of UV exposure.

Wells 5, 6 contain MGA with excess histidine and biotin and MGA with excess tryptophan and biotin, respectively. These wells test for tryptophan and histidine growth requirements.



## #31-600 – Kit content and storage

- ▶ Phenotype test plates (21-40S296, 3x2 plates/sleeve) and discs for phenotype characterization
- ▶ Storage conditions: 2-8°C & -20°C

## Expected results

Strain	Zone of inhibition in mm				Growth	
	C	A	T	M	Trp <sup>-</sup>	His <sup>-</sup>
TA1535, TA1537, TA1538	X	X	X	X	++	0
TA97a, TA98, TA100	X		X	X	++	0
TA102	X				++	0
WP2		X	X		0/+	++
WP2 <i>uvrA</i>		X	X	X	0/+	++
WP2 pKM101			X		0/+	++
WP2 <i>uvrA</i> pKM101			X	X	0/+	++

X = Zone > 10-12 mm

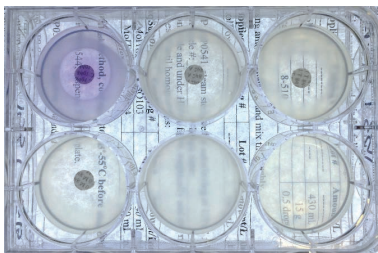
++ = strong growth

+ = weak growth

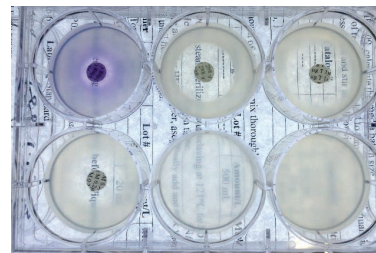
0/+ = no or weak growth

0 = no growth

Phenotype test plates with C (crystal violet), A (ampicillin), T (tetracycline), M (mitomycin C) discs in wells 1 - 4, Trp<sup>-</sup> and His<sup>-</sup> in wells 5 and 6, respectively.



TA1537:  
C sensitive,  
A sensitive,  
T and M sensitive,  
His<sup>+</sup> strong growth,  
His<sup>-</sup> poor/no growth



WP2 *uvrA*:  
C slight sensitive,  
A sensitive,  
T and M sensitive,  
Trp<sup>-</sup> weak growth,  
Trp<sup>+</sup> strong growth



For information send an E-Mail to [info@trinova.de](mailto:info@trinova.de)

## About Us

TRINOVA BIOCHEM GmbH is the European distributor of MOLTOX®, the leading manufacturer of products used in the Salmonella and E. coli WP2 mutagenicity tests / Ames tests: Minimal glucose agar plates, top agars, Salmonella and E. coli tester strains, frozen and lyophilized S9, MUTAZYME™, NADPH-regenerating systems and positive control chemicals.

**MOLTOX**<sup>®</sup>  
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