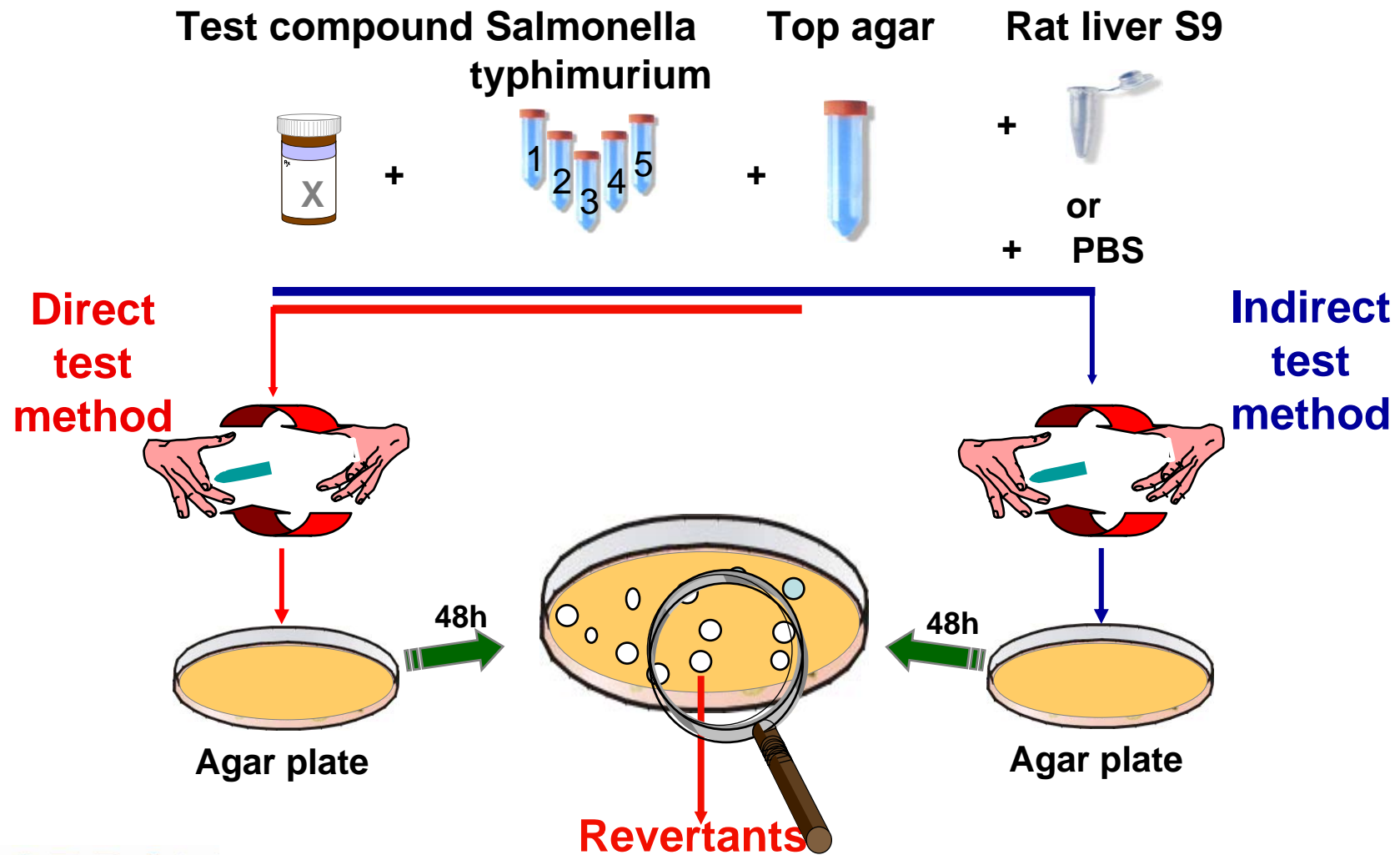


Genotoxicity: Ames Test (OECD 471)

- **Objective:** the detection of induction of gene mutations in bacteria in the absence and in the presence of a rat liver metabolic activation system
- **Principle:** this test detects mutations which revert mutations present in the test strains and restore the functional capability of the bacteria to synthesize an essential amino acid. The reverted bacteria grow in the absence of the amino acid required by the parent test strain.
- **Development Stage:** routine; regulatory test
- **Results / data:** mutation frequency (number of revertant colonies per plate)
- **Applicability Domain:** broad applicability domain: chemicals, drugs, formulations, etc.

Genotoxicity: Ames Test (OECD 471)

Experimental layout



Genotoxicity: Ames Test (OECD 471)

Genotypes of the *S. typhimurium* strains

Strain	Amino acid Mutation	Type of mutation	DNA target	Cell wall mutation	DNA-repair	Plasmid
TA1535	His G46	Base-pair substitution	GC	rfa	uvrB	–
TA100	His G46	Base-pair substitution	GC	rfa	uvrB	pKM101
TA1537	His C3076	Frame-shift	GC	rfa	uvrB	–
TA1538	His D3052	Frame-shift	GC	rfa	uvrB	–
TA98	His D3052	Frame-shift	GC	rfa	uvrB	pKM101
TA97	His D6610	Frame-shift	GC	rfa	uvrB	pKM101
TA102	His G428	Base-pair substitution	AT	rfa	+	pKM101 pAQ1

Genotoxicity: Ames Test (OECD 471)

