



Prepared Mixtures for Bacterial Mutagenesis

# S9 Liver Extract and Metabolic Activation

- *S. typhimurium* and *E. coli*, used in Ames test, are prokaryotes and therefore do not exactly reflect the conditions in humans. In mammalian organisms chemical molecules are often metabolized in the liver. This can lead to the generation of mutagenic metabolites.
- S9 is a liver extract (e.g. rat, hamster or human) that contains active liver enzymes (P450 activity) simulating the hepatic metabolism in in vitro assays.
- The P450 activity in S9 can be increased through induction with pure chemicals like Aroclor 1254 or Phenobarbital. Metabolic activation systems based on chemically induced S9 have been widely applied in in vitro studies; e.g. the Salmonella mutagenicity test and the micronucleus test.
- S9 is the supernatant of homogenized liver (in 0.25M saccharose) that has been centrifuged at 9000 g for 10 min. For gaining the liver microsomes the homogenized liver is centrifuged at 100000 g for 1 h.
- Our S9 products are standardized for use in the Ames test. For other genotoxic tests, different S9 batches can be tested for less toxic effects on cells.



**MOLTOX PRODUCTS  
DELIVERY FROM STOCK !**

## Lyophilized S9 Liver Extract

Lyophilized S9 is easy to handle and especially useful when an ultralow freezer is not available. It is ready to use after reconstitution with the label volume of cold, sterile, purified water.

Catalog No	Description	Storage	Size
11-01L.1 / .2	S9 SD Rat liver Aroclor in KCl	-20°C	1.1 / 2.1 ml per vial

## Frozen S9 Liver Extract

Catalog No	Description	Storage	Size
11-101.1 / .2 / .5	S9 SD Rat liver Aroclor in KCl	-80°C	1 / 2 / 5 ml per vial
11-102.5	S9 SD Rat liver uninduced in KCl	-80°C	5 ml per vial
11-105.1 / .2 / .5	S9 SD Rat liver PB/BNF in KCl	-80°C	1 / 2 / 5 ml per vial
11-115.5	S9 SD Rat liver Ethanol in KCl	-80°C	5 ml per vial
12-107.2	S9 F344 Rat liver Aroclor in KCl	-80°C	2 ml per vial
14-103.5	S9 Human liver pooled	-80°C	5 ml per vial
14-201.1	Microsomes Human liver pooled	-80°C	1 ml per vial
15-03S.5	S9 Golden Syrian Hamster liver Aroclor in KCl for modified Ames	-80°C	5 ml per vial
15-104.5	S9 Golden Syrian Hamster liver uninduced in KCl	-80°C	5 ml per vial
18-101.01	Microsomes SD rat liver Aroclor	-80°C	0.1ml per vial

Note:

Please contact us directly if you have questions about any products not listed here or would like us to custom manufacture an item to your specifications. Microsomes can be prepared according to your specifications. Please ask for availability of S9 Mouse! Ready-to-use S9Mix MUTAZYME is available as well.



## S9 Requires a NADPH Regenerating System

Refer to appropriate test method for information on the appropriate system.

MOLTOX® offers a prepared NADPH Regenerating System conveniently preformulated, filter sterilized (Regensys™ A, Regensys™ B).

Mixing of Regensys A, Regensys B, and S9 results in a cytochrome-based P450 metabolic oxidation system that may be appropriate for your assay.



Catalog No	Description	Storage	Size
60-200.15	NADPH Regensys™ A	4°C	15 ml
60-200.50	NADPH Regensys™ A	4°C	50 ml
60-201.15L	NADPH Regensys™ B, lyophilized	-20°C	15 ml
60-201.5L	NADPH Regensys™ B, lyophilized	-20°C	50 ml

We also offer **ready-to-use S9 Mix MUTAZYME™** - containing a NADPH Regenerating System and all necessary Co-factors. Available as 5%, 10% and 30% S9 Mix.



For information send an E-Mail to [info@trinova.de](mailto:info@trinova.de)  
or visit us at [www.trinova.de](http://www.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: Minimal glucose agar plates, top agars, Salmonella and E. coli tester strains, frozen and lyophilized S9, MUTAZYME™, NADPH-regenerating systems and positive control chemicals. The BioReliance® Ames II™ test kit produced by MOLTOX® is distributed by TRINOVA in Europe as well.

