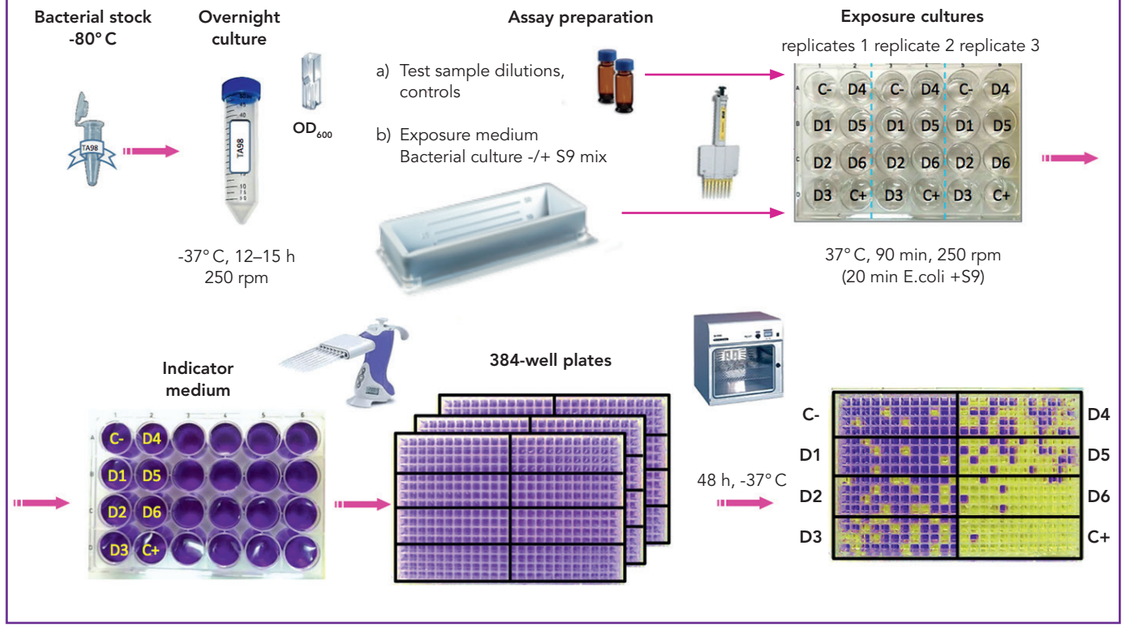
Procedure Ames Microplate Assay



Publications on Ames MPF (more publications available on demand)

Flückiger-Isler S. and M. Kamber (2012) Direct comparison of the Ames microplate format (MPF) test in liquid medium with the standard Ames pre-incubation assay on agar plates by use of equivocal to weakly positive test compounds. Mutat Res. 747(1):36–45.

Gervais V., D. Bijot and N. Claude (2003) Assessment of a screening experience with the Ames IITM test and future prospects. Poster EEMS, Aberdeen (UK).

Flückiger-Isler S., M. Baumeister, K. Braun, V. Gervais, N. Hasler-Nguyen, R. Reimann , J. Van Gompel, H.-G. Wunderlich and G. Engelhardt (2004) Assessment of the performace of the AmesTM assay: a collaborative study with 19 coded compounds. Mutat Res 558:181–197.

Gee P., C.H. Sommers, A.S. Melick, X.M. Gidrol, M.D. Todd, R.B. Burris, M.E. Nelson, R.C. Klemm and E. Zeiger (1998) Comparison of responses of base-specific Salmonella tester strains with the traditional strains for identifying mutagens: the results of a validation study. Mutat Res 414:115–230.

Heringa M.B., D.J.H. Harmsen, E.F. Beerendonk, A.A. Reus, C.A.M Krul, D.H. Metz and G.F. IJpelaar (2011) Formation and removal of genotoxic activity during UV/H2O2-GAC treatment of drinking water, Water Research 45, 366–374.

Kamber M., S. Flückiger-Isler, G. Engelhart, R. Jaeckh and E. Zeigler (2009) Comparison of the Ames II and traditional Ames test responses with respect to mutagenicity, strain specificities, need for metabolism and correlation with rodent carcinogenicity. Mutagenesis vol. 24, no. 4, 359–366.

characterization of a novel explosive, triaminoguanidinium-1-methyl-5-nitriminotetrazolate (TAG-MNT), in female rats and in vitro assays. J. Toxicol. and Environ. Health Sci. Vol. 3 (3), 80–94.

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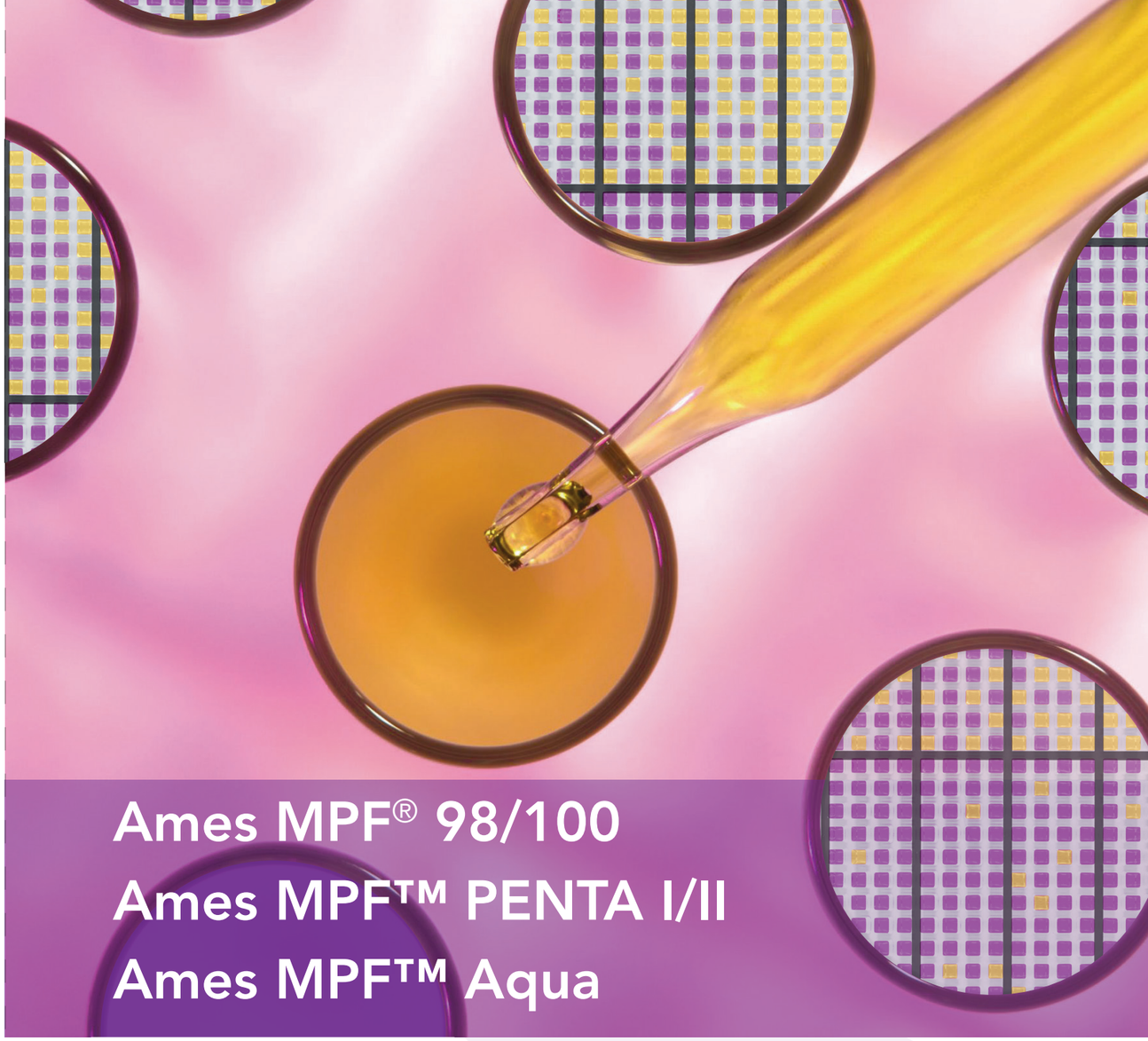
XENOMETRIX
Swiss Commitment for Bioassays



Ames MPF® 98/100
Ames MPF™ PENTA I/II
Ames MPF™ Aqua

Ames MPF® mutagenicity assay is a miniaturized modification of the Ames fluctuation assay and is based on the same principle as the agar plate test (OECD 471), but offers several advantages.

Large range of ready to use kits, individual reagents and technical support to run the Ames mutagenicity assay in your own lab.

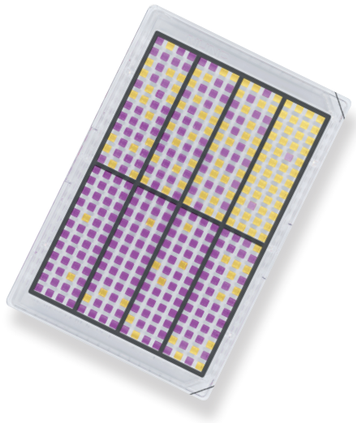
Ames mutagenicity assays are important for:

- the safety evaluation of cosmetics and pharmaceuticals
- the exclusion of genotoxic activity in chemicals or pesticides
- the exclusion of mutagenicity in medical devices
- the exclusion of micro-pollutants in drinking water
- the control of absence of genotoxic compounds in surface or waste water, air, soil or sediments
- the research in the field of food ingredients, food packaging

XENOMETRIX
Swiss Commitment for Bioassays

Benefits of Ames MPF and Ames II

- Complete ready to use kits with strains, ampicilline, culture media, positive controls and S9
- Same test principle and same tester strains as agar plate test
- Miniaturized, liquid microplate format allowing simultaneous processing of several compounds and automation
- Detection of genotoxic activity in chemicals, medical devices, cosmetics, pharmaceuticals, food ingredients, water, air, soil or sediments
- Certificate of analysis provided: Quality controlled reagents, biologicals and strains (genotyped and phenotyped)
- High concordance with agar plate-based assay (see literature)



Ames MPF versus agar plate test: 1 compound, 5 strains, +/- S9, triplicates, neg. / pos. control

- Up to 4-fold less compound consumption: 55 mg versus 220 mg
- 5 times less operator intervention: 1.5 h versus 5 h hands-on-time
- At least 3-fold less contaminated waste: 30 plates versus 240 plates
- In line with 3R: Up to 11-fold less consumption of rat liver S9 and thus 11 fold less test animals: 0.45 ml versus 5.25 ml of rat liver S9
- In line with OECD 471, FDA and ICH M7
- Fast, easy and no error prone counting of revertants

Ames MPF ready-to-use kits

Article number	Product description	Kit configuration
A10-210	**Ames MPF 98/100** (2 x 480 Measuring Points)	10 samples
A10-210-S1-P, or S2-P	**Ames MPF 98/100** (2 x 480 Measuring Points)	10 samples + S9 + pos. contr.
E10-213	**Ames II** (2 x 480 Measuring Points)	10 samples
E10-213-S1-P	**Ames II** (2 x 480 Measuring Points)	10 samples + S9 + pos. contr.
C10-512	**Ames MPF PENTA I** (5 x 480 Measuring Points)	10 samples
C10-512-S1-P, or S2-P	**Ames MPF PENTA I** (5 x 480 Measuring Points)	10 samples + S9 + pos. contr.
In prep.	**Ames MPF PENTA II** (5 x 480 Measuring Points)	10 samples
In prep.	**Ames MPF PENTA II** (5 x 480 Measuring Points)	10 samples + S9 + pos. contr.

Individual reagents

Article number	Product description	Quantity
Strains		
PSS-0110	AG-TA98 - semisolid	250 ul
PSS-0111	AG-TA100 - semisolid	250 ul
PSS-0112	AG-TA1535 - semisolid	250 ul
PSS-0113	AG-TA1537 - semisolid	250 ul
PLI-0110	AG-TA98 - liquid	250 ul
PLI-0114	TAMix liquid (TA7001–TA7006)	50 ul
PSS-0115	E.coli WP2 uvrA - semisolid	250 ul
PSS-0116	E.coli WP2 [pKM101] - semisolid	250 ul
PSS-0119	E.coli WP2 UvrA[pKM101] - semisolid	250 ul
Liquid Media		
PMM-GM00	Ames MPF / Ames II growth medium (RT)	50 ml
PMM-EM02	Ames MPF / Ames II exposure medium (RT)	50 ml
PMM-IM10	Ames MPF / Ames II indicator medium (RT)	550 ml
PME-EM22	Ames MPF E.coli exposure medium (RT)	50 ml
PME-IM31	Ames MPF E.coli indicator medium (RT)	550 ml
Microsomal fractions of rat liver S9, co-factors		
PRS-AC00	Lyophilized, Aroclor 1254-induced rat liver S9	0,4 ml
PRS-AC01	Lyophilized, Aroclor 1254-induced rat liver S9	1 ml
PRS-AC02	Lyophilized, Aroclor 1254-induced rat liver S9	2 ml
PRS-PB00	Lyophilized, PB/BN-induced rat liver S9	0,4 ml
PRS-PB01	Lyophilized, PB/BN-induced rat liver S9	1 ml
PRS-PB02	Lyophilized, PB/BN-induced rat liver S9	2 ml
PCO-0800	S9 cofactor kit (Buffer Salts, G6P, NADP)	20 ml
Positive Controls		
PPC-NF00	2-NF: 2-Nitrofluorene	20 µg
PPC-AA01	2-AA: 2-Aminoanthracene	100 µg
PPC-AA02	2-AA: 2-Aminoanthracene	2 mg
PPC-NQ02	4-NQO: 4-Nitroquinoline-N-oxide	50 µg
PPC-AC02	N4-ACT: N4-Aminocytidine	2.5 mg
PPC-AR05	9-AAC: 9-Aminoacridine	1000 µ
PPC-AF10	2-AF: 2-Aminofluorene	10 mg
Ampicillin		
PAM-0001	**Ampicillin**	50 µl

S1= Aroclor 1254-induced rat liver microsomal fraction S9
S2= Phenobarbital/ß-Naphtoflavone (PB/BN)-induced rat liver microsomal fraction S9