

# Genetic Toxicology Tests

Standardized and Automated Application Packages

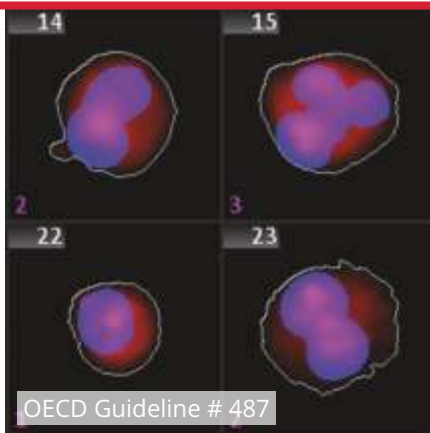
## Chromosomal Aberrations

OECD Guideline # 473



## Comet Assay

OECD Guideline # 489



## In Vitro Micronucleus Test

OECD Guideline # 487



## In Vivo Micronucleus Test

OECD Guideline # 474

Standardization is a highly important goal in the design of pre-clinical toxicology tests. The slide scanning software Metafer can be used as a versatile and reliable tool to automate the evaluation of OECD compliant tests like the erythrocyte micronucleus test (#474, 1997), the in vitro micro-nucleus test (#487, 2004), the in vivo mammalian alkaline comet assay (#489, 2014), and the chromosome aberration test (#473, 1997).

In addition to the assays above, Metafer also provides other packages, e.g., for the Ames II test, the digitization of tissue sections, and more.



## References

Metafer users publish their results in many peer-reviewed journals, and Metafer as a tool to automate toxicological microscopy has been subject to several studies. Please find below a list of recent citations of studies performed with Metafer in toxicology studies and research.




Environmental assessment and evaluation of oxidative stress and genotoxicity biomarkers related to chronic occupational exposure to Benzene. *I.C. Costa-Amaral et al., International Journal of Environmental Research and Public Health 16(2019).*

Pharmacokinetics, biodistribution, and biosafety of PEGylated gold nanoparticles in vivo. *K. Kozics et al., Nanomaterials 11(2021).*

Preclinical assessment of tobacco-free nicotine pouches demonstrates reduced in vitro toxicity compared with tobacco snus and combustible cigarette smoke. *F. Yu et al., Applied In Vitro Toxicology 8(2022).*

A proposal for a novel rationale for critical effect size in dose-response analysis based on a multi-endpoint in vivo study with methyl methanesulfonate. *A. Zeller et al., Mutagenesis 31(2016).*

The described functions refer to the following software versions: **Metafer 4.3**

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The application packages presented here are application-specific adaptations of the Metafer software. It is possible that further adaptations to specific specimen conditions are necessary.

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Document No. FLY-MS-Toxicology-EN-2023-06-03