Swiss Commitment for Bioassays
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Contact us at:

Service analytics with miniaturized Ames MPF™
- High concordance with agar plate-based assay, same test principle and same tester strains as agar plate test
- Up to 4-fold less compound consumption: 55 mg versus 220 mg (agar plate test)
- Fully in line with ICH M7 or with ISO 11350:2012
- 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
- Detection of genotoxic activity in chemicals, medical devices, cosmetics, pharmaceuticals, food ingredients, water, air, soil or sediments

Others analysis services available:
- In vitro toxicology: skin and eye irritation, skin corrosion, phototoxicity, in vitro skin sensitization, ex vivo skin permeation.
- Physico-chemical Properties
  - OECD/EU-Methods
  - UN-Methods
  - CIPAC-Methods
- Ecotoxicology
- Biodegradation
- Environmental Fate
- Analytical Chemistry
- Endocrine Properties

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All in One Service Analytics for Genotoxicity:
Genotoxicity γH2AX/pH3 Assay Service
Cytogenetic in vitro Micronucleus Service
Miniaturized Ames MPF™ for Genotoxic Impurities

- γH2AX/pH3 assay identifies compounds with different mode of genotoxic action: aneugenic, direct or bioactivated clastogenic compounds
- In vitro micronucleus (OECD 487) on TK6 cells or on human blood
- Chromosome aberration test (OECD 473) on human blood
- Mouse lymphoma assay (OECD 490) on L5178Y(TK locus) cell line
- Telomere – centromere analysis
- Miniaturized Ames MPF™ Penta 1 or Penta 2 assay on 5 regulatory strains
- Miniaturized Ames MPF™ 98/100 for genotoxic impurities (ICH M7)
- Ames MPF 98/100 Aqua for surface or waste water (ISO 11350:2012)
Genotoxicity γH2AX/pH3 Assay – for multiple tissues and cell cultures

Optimized Strategy for Discrimination of Aneugens and Clastogens

Test Compound

HepG2

Metabolisation

LS-174T

ACN

Cytoxic

Aneugen

Clastogen

Aneugen

Direct Clastogen

Bioactivated Clastogen

γH2AX Assay for many different metabolizing or non-metabolizing cells, organ specific tissues, biopsies.

Cell Line

Test Compound

Different Dilutions

Signal detection

Red: DNA

Green: γH2AX or pH3

Empty vials: cytotoxicity

Assay Short Protokoll.

References

Khoury et al. (2016) Mutagenesis
Khoury et al. (2016) Arch. Tox.

Telomere – Centromere Analysis – results from highly skilled scientist

• Preclinical and clinical safety evaluation
• Combination of telomere-centromere measurement with chromosome aberration test (OECD 473)
• Identification of micronucleus components when combined to in vitro micronucleus assay (OECD 487)
• Evaluation of potential genotoxic impurities/intermediates, metabolites and batch qualification (ICH M7)
• In vitro test on cell line (TK6) or on human blood cells
• Qualitative and quantitative approach, GLP or non GLP
• Chemicals or pharmaceuticals and cosmetics, environmental samples

Cytogenetics – high content image analysis

• In vitro micronucleus (OECD 487) in TK6 cells or in human blood cells
• DAPI staining, telomere and centromere staining
• Image analysis by Metafer technology

Chromosome aberration test – result interpretation made easy

• Chromosome aberration test (OECD 473) in human blood cells
• DAPI staining or mFISH, telomere and centromere staining
• Image analysis by Metafer technology

• Classification of aneugens and direct or bioactivated clastogens in one single test
• Assay for large range of human cell lines, adherent (HepaRG, HaCat, etc.) or in suspension (TK6), metabolizing or non metabolizing
• Assay for large range of human and animal tissues, biopsies
• Short turnaround time 14 days
• Higher sensitivity and specificity as compared to Micronucleus Assay
• No false positive results with ECVAM compounds
• Monodose or repeated treatments
• Samples: chemicals – fluorescent or coloured, pharmaceuticals, cosmetics, alimentary, agrochemical, environmental, water