

LIFE SCIENCES

# IN VITRO TOXICOLOGY TESTING

LIFE INSPIRED, QUALITY DRIVEN



## THE IMPORTANCE OF IN VITRO TOXICOLOGY TESTING

Scientific and technical advances have made in vitro toxicology testing an equivalent and cost-effective alternative to in vivo testing. In vitro toxicology tests are required by regulatory agencies to demonstrate the human and/or environmental safety profile of new chemical entities, pharmaceutical drugs, cosmetic products, medical devices and more. The need for competitive alternatives to animal testing, an increasing public opposition to and bans on animal testing from the cosmetic industry have all led to the development of in vitro toxicology tests. Multiple in vitro toxicology tests have been validated and are now recognized by several regulatory agencies.

## CLIENT BENEFITS

Operating as a counselor and service provider for all your in vitro toxicology testing needs, SGS provides several in vitro toxicology testing procedures to perform toxicological risk assessments of your product(s). Available as stand-alone procedures or testing panels, our suite of services covers over 50 analytical techniques including dermal and ocular toxicity, cytotoxicity, genotoxicity, carcinogenicity, phototoxicity, endocrine disruption, hepatotoxicity and cardiotoxicity.

As part of our commitment to quality, our suite of in vitro toxicology testing procedures ensure compliance with all national, international, mandatory and voluntary regulations and are available under both R&D and voluntary regulations.

## ABOUT SGS

As the world's leading inspection, verification, testing and certification company, SGS is recognized as the global benchmark for quality and integrity.

The Life Sciences division of SGS is a leading contract research organization (CRO) providing comprehensive high-quality testing capabilities in analytical chemistry, microbiology, toxicology, method development and validation, as well as stability and container testing. SGS' quality control laboratories operate according to the highest standards (GMP, GLP, ISO 17025, ISO 9000) and have been inspected by the FDA and local regulatory authorities.

**SGS**

# IN VITRO TOXICOLOGY SERVICES

## DERMAL IRRITATION AND CORROSION TESTS

Assess whether a substance may cause reversible or irreversible damage to the skin

- OECD 439 - EpiDerm™ Skin Irritation Test (Reconstructed human Epidermis (RhE) model)
- OECD 431 - EpiDerm™ Skin Corrosion Test (Reconstructed human Epidermis (RhE) model)

## OCULAR IRRITATION TESTING

Assess whether a substance may cause reversible or irreversible damage to the eye.

- OECD 492 - EpiOcular™ eye irritation test (Reconstructed human Cornea-like Epidermis (RhCE))

## QUALITATIVE AND QUANTITATIVE CYTOTOXICITY TESTING

Uses a numerical grading system to determine how toxic a medical device and its extracts are for cells.

- Direct contact
- Agar diffusion
- Elution

We also offer quantitative testing, using substances or extracts from the medical device.

## GENOTOXICITY

Determines the potential for a product to cause genetic mutations and chromosomal damage. Testing is performed using bacterial and mammalian systems.

- OECD 471 - Ames (gene mutation in bacteria)
- OECD 487 - Micronucleus Assay (chromosomal damage in mammalian cells)

## PHOTOTOXICITY

Predicts whether a toxic response may arise from skin exposure or systemic administration of a substance, followed by subsequent exposure to light.

- OECD 432 - 3T3 NRU phototoxicity test (cell viability test)

## PERMEABILITY

Predicts the intestinal absorption and bioavailability of drugs and is used to determine a drug or substance's permeability class.

- Caco-2 cell monolayer permeability test

## LIFE INSPIRED, QUALITY DRIVEN

SGS Life Sciences enables the medical and health innovators of the world to deliver life-changing solutions in the quickest, safest and most efficient way, helping improve the lives of many. We provide the highest quality services, reliable expertise and guidance through our network of labs conveniently located around the globe.

### CONTACT US

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**WHEN YOU NEED TO BE SURE**

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