# TOXICOLOGY SERVICE

TransMed Research

(TMR) is an innovative GLP-certified contract research organization supporting discovery, preclinical and clinical drug development (Italian Minister of Health, 2014/25). We provide quality services to pharmaceutical, biotechnology and academic clients in Italy and abroad. Our strengths are reliability, quickness and responsiveness.

*What we offer:* TMR offers a full range of toxicology safety evaluation studies for the pharmaceutical products on chemical, food and cosmetic products industries. We have experience with a wide variety of compounds from small molecules, antibodies, peptides, industrial and agro-chemicals, food additives.

TMR operates in conformity to worldwide regulatory guidelines and can be monitored for GLP compliance by our Quality Assurance Unit.

## Development and Reproductive Toxicology

TMR offers a broad range of development and reproductive toxicology services to test the safety of a specific compound and evaluate its effect on reproductive and developmental functions.

We can support your study assessing the effect of your compound on:

- Fertility in male and female
- Embryonic development (species: rat and mouse)
- Post-natal development (species: rat and mouse – including behavioral testing)

## Neurotoxicology

TMR has a long-lasting expertise in neurobiology and has evaluated the effects of several different pharmaceutical products on the nervous system.

We can apply a wide range of technologies:

- Neurobehavioral assays, including locomotor activity, coordination and gait, pain threshold, learning and memory performances
- Neurohistochemistry, including a full-range of neurotransmitters, growth factors and receptors
- Neuropathology, including structural proteins and in situ disease markers

## Histopathology and Biocompatibility

Our toxicology services include extensive microscopic evaluation of tissues and rely on a wide and experienced network of pathologists.

We can execute a variety of studies in transgenic mice and animal models:

- Tissue and slice preparation
- Immunohistochemistry
- Cytology
- Confocal microscopy
- Quantitative image analysis supported by 2D, 3D and 4D software programs

| | SPECIMEN | DURATION | ADMINISTRATION | ASSAY |
|---|---|---|---|---|
| IN VITRO | Neuronal cell cultures (SH-SY5Y, PC12, NT2/D1) - purchased by accredited sources (DSMZ, ATCC, ECACC) | - | In accordance to: Guidance Document on Using in Vitro Data to Estimate Starting Dose for Acute Toxicity | MTT cytotoxicity test, Neutral Red cytotoxicity test, HCS |
| | Neuronal cell cultures (SH-SY5Y, PC12, NT2/D1) - purchased by accredited sources (DSMZ, ATCC, ECACC) | - | | MTT cytotoxicity test, Neutral Red cytotoxicity test, HCS |
| EX VIVO | Primary neuronal cultures - derived from wt (mouse/rat) and transgenic mouse models | - | | MTT cytotoxicity test, Neutral Red cytotoxicity test, HCS |
| IN VIVO | Rodents (mouse and rat) | 14 days | Oral, intranasal, intraperitoneal, intracutaneous, intramuscolar | Single dose toxicity studies (acute toxicity) |
| | | 28 days | Oral, intranasal, intraperitoneal, intracutaneous, intramuscolar | Repeated dose toxicity studies (sub-acute toxicity) |
| | | 90 days | Oral, intranasal, intraperitoneal, intracutaneous, intramuscolar | Repeated dose toxicity studies (sub-acute toxicity) |

INNOVATIVE