

NEUROFIT is a **Contract Research Organisation (CRO)** specialising in the evaluation of treatments for peripheral and central nervous system disorders.

NEUROFIT offers a long list of *in vivo* and *in vitro* validated methods and disease models for drug screening and provides customers with high quality research data and reports.

Methods and protocols can of course be adapted to client's request.



For a complete listing of our models, please refer to our website :

www.neurofit.com

PSYCHIATRY

NEUROFIT offers a variety of well-accepted behavioral tests to assess the potential anxiolytic, antidepressant or antipsychotic effects as well as cognitive enhancing and disrupting effects on learning and memory.

• **Anxiety tests:** Light-dark boxes, Marble burying and the Elevated plus maze

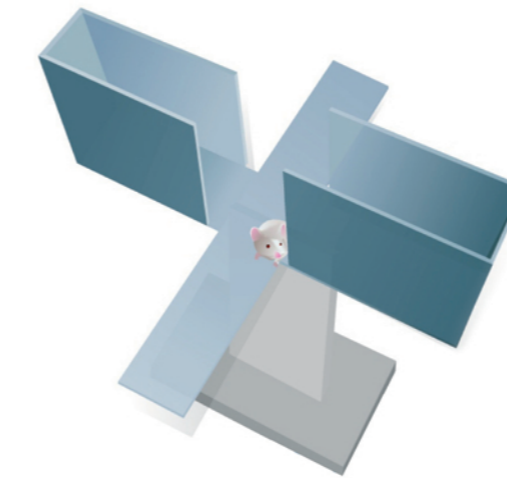
• **Depression:** Forced swimming, Marble burying and Tail suspension

• **Schizophrenia:** MK-801 or Phencyclidine-induced hyperactivity

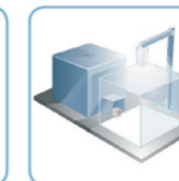
• **Cognition:** Object recognition, Passive avoidance and T-maze

NEUROFIT is able to include in these tests experimental conditions that mimic protocols used in some clinical settings.

Find out more...



- CCK-4-induced panic anxiety
- Scopolamine-induced cognitive deficits
- Aging-related cognition dysfunction
- Amphetamine-induced hyperactivity
- Side effects: locomotor activity & sedation in open-field, motor coordination on rotarod, muscle strength in the grip or in the string test



PSYCHIATRY
(in vivo)

NEUROLOGY

NEUROFIT has developed models for several diseases such as Parkinson's Disease, Epilepsy, Multiple Sclerosis, Arthritis, Pain, Nerve injury and Peripheral neuropathies.

• **Parkinson's Disease:** 6-hydroxydopamine (6-OHDA) - induced lesions of nigrostriatal pathway, Catalepsy

• **Epilepsy:** PTZ-induced seizure

• **Multiple Sclerosis:** Relapsing Remitting and Active Experimental Autoimmune Encephalomyelitis (EAE) and Delayed-Type Hypersensitivity (DTH)

• **Arthritis:** Collagen-induced arthritis

• **Peripheral neuropathies:** diabetic neuropathy, sciatic nerve crush, chemotherapeutic agent-induced neuropathy

• **Pain and neuropathic pain:** formalin-induced pain, painful diabetic neuropathy

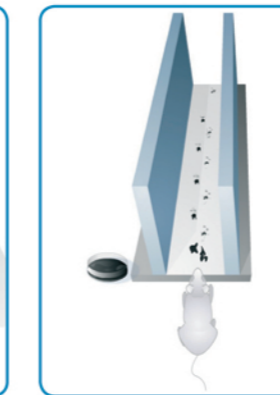
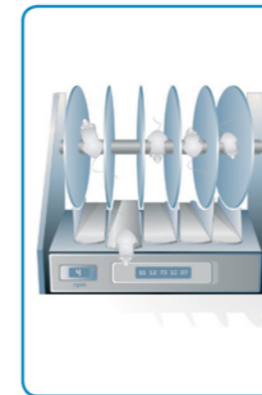
These models are used primarily to evaluate the neurotoxic, neuroprotective or neurorestorative effects of drug candidates.

Find out more...



NEUROFIT conducts different measures:

- Quantitative or semi-quantitative behavioral measures
- Blood biochemistry
- Electrophysiology measures (sensory nerve conduction and compound muscular action potential)
- Histopathological and / or histomorphometric analyses



NEUROLOGY
(in vivo)

IN VITRO (rat primary neuronal culture)

NEUROFIT has developed a comprehensive range of rat primary neuronal culture models and assays to evaluate neurotoxicity, neuroprotective or neurotrophic effect of test compounds.

NEUROFIT can perform cultures of neurons from different brain regions of the rat such cortical, hippocampal or mesencephalic neurons; sensory neurons or spinal cord motor neurons. Culture can be enriched (>95%) for a given neuron types or co-cultured with Schwann cells or glial cells

• **Neurotrophic effect:** Basal neuronal survival and neurite outgrowth

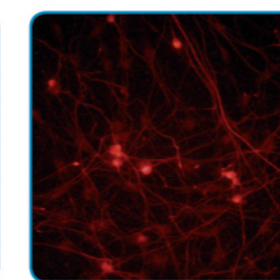
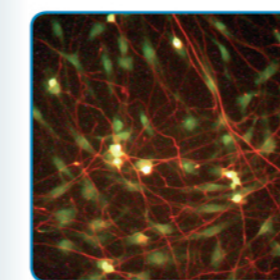
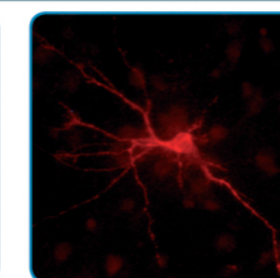
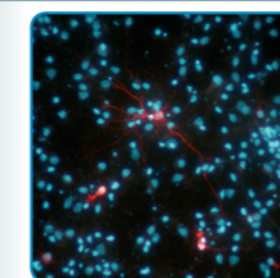
• **Excitotoxicity and Amyotrophic lateral sclerosis disease:** NMDA or glutamate-induced neuronal death

• **Parkinson's disease:** MPP+-induced death of dopaminergic neurons

• **Chemotherapy induced-neuropathy models**

• **Multiple sclerosis:** proliferation of oligodendrocyte precursors

Find out more...



NEUROFIT conducts different measures:

- Neurite length
- Cell death or viability: Lactate-dehydrogenase (LDH), (3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) or Acid phosphatase (AP) measures
- Cell counts (dopaminergic neurons)
- Nerve function: human muscle - rat nerve co-culture

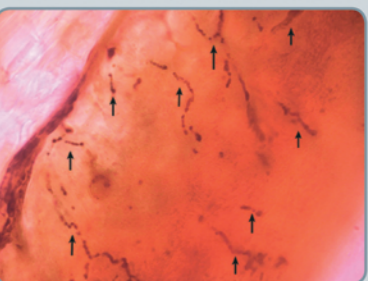
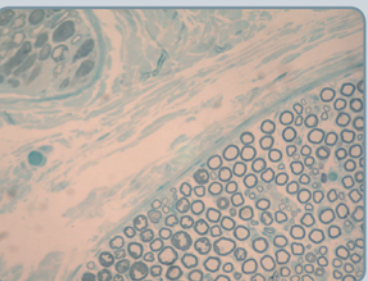
IN VITRO
(rat primary neuronal culture)

HISTOLOGY

NEUROFIT offers a computer assisted histological platform to investigate changes in morphological profile of peripheral nerves parameters: axonal area, relative myelin sheath thickness, fiber size distribution, fibers density.

As in clinical peripheral neuropathy, **NEUROFIT** uses the loss in the density of Intra-Epidermal Nerve Fibers as a sensitive hallmark of peripheral neuropathy.

NEUROFIT implements standard colorations as well as specific immunostaining on paraffin section and cryo-section.



BRAIN MICROSTRUCTURE TISSUE SAMPLES

NEUROFIT routinely performs, as part of a study, dissection of brain microstructures from compound-treated animals (mouse or rat) to provide customers with useful samples for their:

- PK
- biochemistry
- immunochemistry analyses

