

NICO | Neuroscience Institute Cavalieri Ottolenghi

S&P BRAIN MISSION

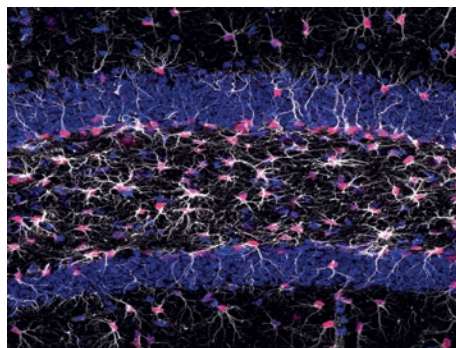
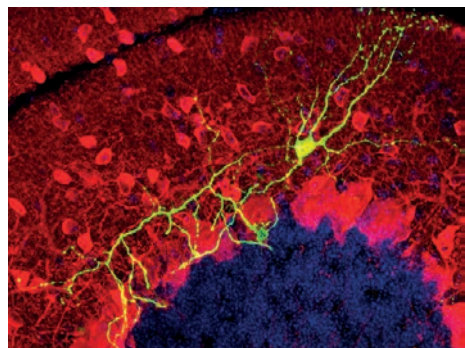
We offer preclinical studies in small animals spanning from a wide range of behavioral tests to models of neurological injuries to cardiovascular, endocrine and metabolic measures. S&P BRAIN combines the power of a preclinical start-up to draw on scientific faculty to solve the most complex problems. Our experience will help pharmaceutical, biotechnology and medical device companies and research centers to establish the proof-of-efficacy of new drugs or pilot in vivo studies.

S&P BRAIN EXPERIENCE

The quality of the services offered by S&P BRAIN is assured by the long term expertise of its staff active in an internationally recognized academic research. Team's know-how covers a wide variety of multidisciplinary research activities applied to neurosciences, including neuroanatomy, neurophysiology, neuropharmacology, neuroregenerative medicine, cellular and molecular biology. S&P BRAIN's headquarter and preclinical research unit are located at NICO, a Neuroscience research center that gathers the complementary experiences of basic and clinical research groups sharing of knowledge, expertise, capabilities and facilities. Our equipment, methods and techniques are constantly improved to meet the most innovative standards, thus providing the best up-to-date solutions to our clients.

S&P BRAIN ETHICS

Our standards are based on honesty, confidentiality and integrity during the entire workflow. We ensure reliability and flexibility from the experimental design to the data collection and the final report.



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WE PROVIDE TO PHARMACEUTICAL,
BIOTECHNOLOGY AND MEDICAL DEVICE
COMPANIES AND TO RESEARCH CENTERS
HIGH QUALITY RESEARCH AND ON-TIME
RESULTS FOR PROOF-OF-CONCEPT OR
PILOT IN VIVO STUDIES

EXPERTISE FOR A HIGH QUALITY
DESIGN OF PRECLINICAL STUDIES



EXPERIMENTAL SERVICES

BEHAVIOURAL STUDIES

- Psycho-emotional tests: anxiety-like behavior, fear-like behavior, depression-like behavior, behavioural flexibility
- Cognitive tests: learning and memory, problem solving
- Stereotypic behaviours
- Explorative behaviour
- Sociability
- Stress
- Daily Activities
- Addiction



NEONATAL AND JUVENILE STUDIES

- Environmental effects: perinatal environment, enriched environment, constraint-induced movement therapy (CIMT)
- Analysis of developmental milestones

NEUROLOGICAL FUNCTION STUDIES

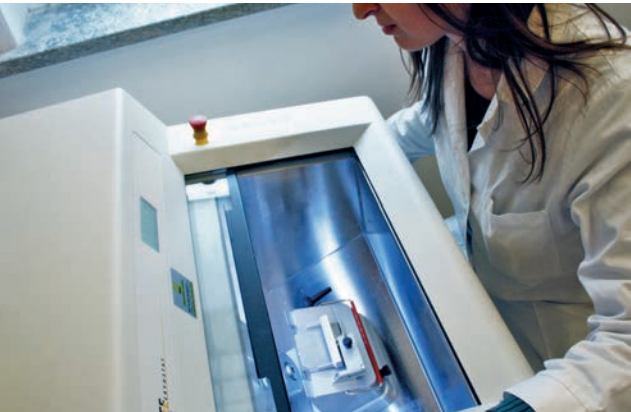
- Motor coordination
- Sedation
- Ischemia
- Epilepsy
- Huntington disease
- EEG
- In vivo brain transplants

FUNCTIONAL STUDIES

- Locomotor activity
- Spontaneous locomotor activity
- Feeding behavior
- Sexual behavior
- Heart rate and blood pressure
- Oxygen saturation, breath rate, pulse and breath distention

SURGICAL TECHNIQUES

- Traumatic brain injury
- Acute and chronic glaucoma models
- Neuropathic pain (sciatic nerve injury)
- Spinal cord lesions
- CNS and in utero grafting
- Microsurgery
- In utero electroporation
- Toxic transient focal or global demyelination



HISTOLOGICAL, CELLULAR AND BIOMOLECULAR ANALYSES

- Stereologic and morphometric analyses
- Microscopy: confocal, electron and two photon
- Cell cultures
- Genotyping
- mRNA and protein gene expression

ADMINISTRATION ROUTES

- Oral routes: gavage, capsule, diet
- Parenteral routes: intracerebral, intravenous, intramuscular, subcutaneous, intraperitoneal
- Local routes: dermal, ocular, intranasal, intravaginal, buccal, intrarectal
- Adeno and retroviral injections

DRUG EXPOSURE EVALUATION

- Bioavailability



EXPERIMENTAL SERVICES



EXPERIMENTAL MODELS

GENETICALLY MODIFIED MOUSE MODELS

- Cerebral amyloidosis
- Familial Alzheimer's disease
- Cerebellar ataxia
- Amyotrophic Lateral Sclerosis (ALS)
- Spinal muscular atrophy (SMA)
- Types A and B Niemann-Pick disease (NPD)
- Anxiety
- Obesity
- Metabolic syndrome
- Transgenic mice for visualization of fluorescent neurons and glial cells
- Mutant lines for cell-type specific conditional and inducible knockout of target genes

FACILITIES

- Animal house: breeding, housing, behavioural, and surgical rooms
- Cell culture, BSL2 facilities

BRAIN TUMOR MODELS

- In vivo models of glioblastoma (grafts of mouse or human glioblastoma cell lines)
- MRI-based longitudinal analyses
- Histological investigations
- End-point analyses

ANIMAL SPECIES

- Mouse (*Mus musculus*)
- Rat (*Rattus norvegicus*)

