



# Carola Eva

## President

S&P BRAIN srl

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## Description

The company is a young academic spinoff, located near Turin, Italy, and founded in 2015 by a group of senior academic neuroscientists. It offers preclinical studies in small animals spanning from a wide range of behavioral tests to models of neurological injuries to cardiovascular, endocrine and metabolic measures. Staff experience will help pharmaceutical, biotechnology and medical device companies and research centers to establish proof-of-efficacy of new drugs or pilot in vivo studies.

Description. S&P BRAIN provides to pharmaceutical, biotechnology and medical device Companies and to Research Centers high quality research and on-time results that are tailored to our client's need to prove in vivo the efficacy of new drugs for the treatment of neurological or psychiatric disorders or biocompatibility of biomedical devices. S&P BRAIN' staff has extensive experiences in designing specialized in vivo studies or identifying new and robust models for the preclinical proof of concepts and to adapt them to customer's project needs.

EXPERIMENTAL SERVICES. In vivo studies: S&P BRAIN supplies a wide range of functional and psycho-emotional behavioral tests, neurological injury models, brain tumor models, surgical techniques with rodents as well as cardiovascular, endocrine and metabolic measures. Behavioural Studies: psycho-emotional tests (anxiety-like behaviour, fear-like behaviour, depression-like behaviour, behavioural flexibility), cognitive tests (learning and memory, problem solving), stereotypic behaviours, explorative behaviour, sociability, stress, daily activities, addiction. Neurological Function Studies: reflexes, motor coordination, sedation, ischemia, epilepsy, Huntington disease. Neonatal And Juvenile Studies: environmental effects (perinatal environment, enriched environment constraint-induced movement therapy), analysis of developmental milestones Functional Studies: locomotor activity, spontaneous locomotor activity, feeding behaviour, sexual behaviour, heart rate and blood pressure, oxygen saturation, breath rate, pulse and breath distention. Surgical Techniques: TBI, 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. 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. Morphological and biomolecular analyses Histological Analyses: stereologic and morphometric analyses, microscopy (confocal, electron and two photon). Cellular And Biomolecular Analyses: cell cultures, genotyping, mRNA and protein gene expression.

EXPERIMENTAL MODELS. The company can provide wild type and genetically engineered mouse models for preclinical proof of concept studies that are requested by our clients. 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. Brain Tumor Models: in vivo models of glioblastoma (grafts of mouse or human glioblastoma cell lines), RI-based

longitudinal analyses, histological investigations, end-point analyses. Animal Species: mouse (*Mus musculus*), rat (*Rattus norvegicus*).

**FACILITIES.** Animal facility: includes rooms for animal breeding, housing and behavioural testing and a room dedicated to rodent surgery. Behavioural tests facility : the laboratory is equipped with mazes and infrared camera for behavioural analysis of locomotor activity, anxiety, depressive-like behaviour and memory. A computerized video-tracking system (Ethovision XT video track system) is also available to analyze digitized images of behavioural tests. Neuroanatomy facility: a confocal microscope and numerous operating and research quality microscopes are available. An electron microscope is also accessible. Several computer imaging systems with microscope and digital cameras are available for morphometry, autoradiographic quantitative densitometry, image processing, and statistical analysis. Neurohistology facilities offer sliding microtomes, rotary microtomes, vibratomes, and cryostats. Cellular and molecular biology facility: The cell biology facility includes cell counting, cell freezing, cell plating for tissue culture experiments, and cell transfection. Inverted microscopes and time-lapse imaging system for living cells are available for in vitro and ex-vivo culture analyses (primary cultures, tissue explants, organotypic cultures, neurosphere assay). In addition, we offers expertise and services related to molecular biological techniques, such as DNA, RNA and microRNA preparation and analysis. The molecular biology facility includes a semi-automated nucleic acid purification platform, three Real-Time PCR machines, an electroporator for bacteria or ES as well as other standard laboratory equipment for extraction and analysis of DNA, RNA and proteins. Biosafety Level 2 (BSL2) biotechnological tools to manipulate gene expression or tag cells and their progeny are also available. **ADVANTAGES AND INNOVATION:** The company offers preclinical studies in small animals spanning from a wide range of behavioral tests to models of neurological injuries to cardiovascular, endocrine and metabolic measures. We combines the power of a preclinical start-up to draw on scientific faculty to solve the most complex problems. The staff 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. The quality of the services offered 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, neuro-regenerative medicine, cellular and molecular biology. The headquarter and preclinical research unit are located at Neuroscience research center that gathers the complementary experiences of basic and clinical research groups sharing of knowledge, expertise, capabilities and facilities. Equipment, methods and techniques are constantly improved to meet the most innovative standards, thus providing the best up-to-date solutions to our clients. The company's standards are based on honesty, confidentiality and integrity during the entire workflow, ensuring reliability and flexibility from the experimental design to the data collection and the final report.

Organization Type

Micro and Small Company

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Areas of Activities

**Healthcare**

**Other**

Offer

### **Proof of concept preclinical studies**

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.

Cooperation Offered

1. Technical collaboration
2. Industrial Collaboration
3. Clusters Partnership

Cooperation Requested

1. Technical Collaboration
2. Industrial Collaboration
3. Clusters Partnership
4. Institutional Collaboration