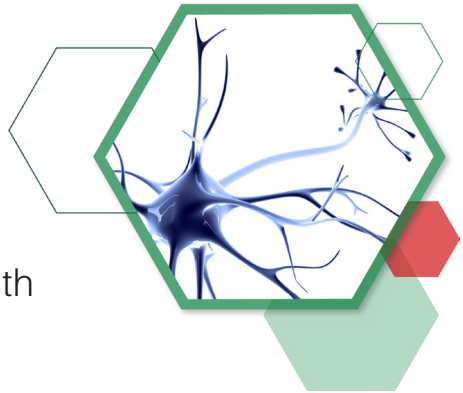
InnoSer | a smart road to better health



Neurology Mouse Models

A broad portfolio of genetic and induced mouse models with clinically relevant phenotypes

InnoSer accelerates neurology therapeutics development through a broad portfolio of genetic and induced mouse models. Proprietary models that bring a unique value combined with commercial strains that are widely utilized in development programs ensure that your research question is investigated in an optimal platform.

Our models are thoroughly characterized by a battery of behavioral tests as well as biochemical and histopathology assessments, covering key phenotypes that recapitulate human disease conditions. Effects of therapeutic interventions and their interplay with these phenotypes can therefore be tested by relevant readouts in a robust and reliable manner.

Choose the Right Model For Your Research

Neurodegeneration

Alzheimer's Disease	Parkinson's Disease	Amyotrophic Lateral Sclerosis	Multiple Sclerosis	Neuroinflammation
Genetic Models				
Amyloid transgenic	α-synuclein transgenic	SOD1 transgenic		Reactive microglia and microgliosis
Tau transgenic		eIF2B mutant		Reactive astrocytes and astrogliosis
		TDP43 transgenic		
Induced or Seeding Models				
Tau seeding	MPTP-induced	TDP43 seeding	Cuprizone (+ rapamycin) induced	NLRP3 inflammasome
	α-synuclein seeding		Experimental autoimmune encephalomyelitis	LPS-induced

Other

Rare Genetic Diseases	Neurodevelopment and Psychiatric Disorders	Aging	Neuromuscular Diseases	Intellectual Disability	Spinal Cord Injury
Genetic Models					
Vanishing white matter	Schizophrenia		Spasticity	Fragile X syndrome	
Epileptic encephalopathy	Autism spectrum disorder		Duchenne muscular dystrophy		
Fragile X syndrome	DiGeorge syndrome		Charcot Marie Tooth Disease		
Induced or Seeding Models					
	Social defeat-induced major depression	Natural aging		MK801-induced cognitive deficit	Transection
	Anxiety and PTSD	Senescence		Scopolamine induced cognitive deficit	

Readouts and Analysis

Testing your therapeutic agent in the right model is only half of your optimal study setup. Our scientists with expertise and an in-depth understanding of these models help you collect and analyze all the necessary data to advance your development programs. These readouts include:

- **Histology (standard and customized):** Classical, immunofluorescence, immunohistochemistry
- **Biochemistry:** Western blot, ELISA, SIMOA / MSD, mass spectrometry
- **Gene expression analyses:** PCR, RT- qPCR, sequencing
- **Tissue collection and measurements:** Brain, blood, cerebrospinal fluid, other organs
- **Cell isolation:** FACS, laser capture microdissection
- **Electroencephalography (EEG) and electromyography (EMG):** Telemetry
- **Behavioral tests:** Cognition, sensorimotor functions, social behavior, anxiety

Example models and readouts

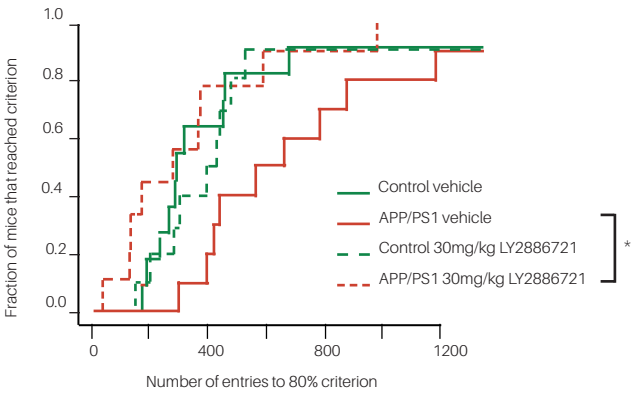


FIGURE 1. Transgenic Alzheimer's disease model shows significant learning impairments. In the automated CognitionWall ™ test, deficit in discrimination learning of APP/PS1 transgenic mice can be rescued by an acute dose of the BACE1 inhibitor LY2886721 administered 3 hours before the onset of the task. (*P<0.05)

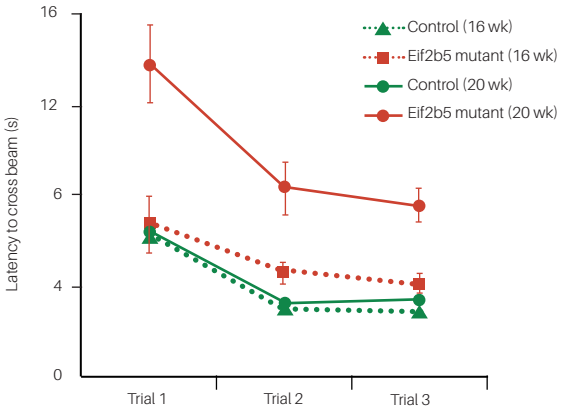


FIGURE 2. A unique eIF2B4 / eIF2B5 mouse model of vanishing white matter (VWM) disease and ALS. EIF2B mutant mice recapitulate many of the phenotypes of VWM and ALS, including a decreasing performance in the balance beam test from 16 weeks of age to 20 weeks of age in comparison to healthy controls.

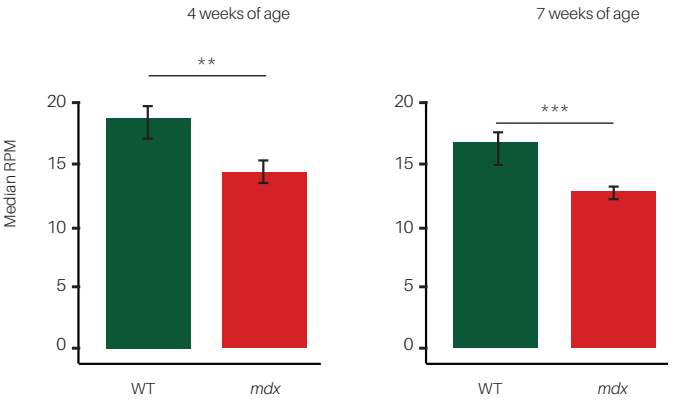


FIGURE 3. The C57BL/10ScSnJ mdx mouse model for Duchenne Muscular Dystrophy (DMD) shows muscle impairment. The mdx mice show significant decreases in physical performance in the rotarod test in comparison to their WT litter mates at 4 weeks and 7 weeks of age (**P<0.01) (***P<0.001).

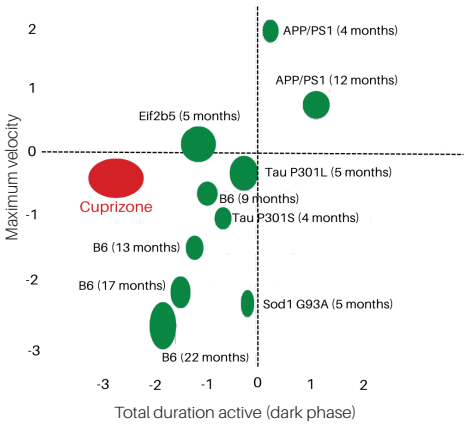


FIGURE 4. The cuprizone model of MS shows a strong effect in the PT. Cuprizone-treated mice show specific decreases in activity during the dark phase,(when followed in automatic home cages, PhenoTyper™) in comparison with naturally aged B6 mice and other neurodegenerative disease models.

Model options per indication

Are you interested in learning about the detailed phenotypic characterization of our neurodegenerative disease models? Request your indication specific leaflet, which also contains an overview of behavioral, biochemical, and histopathological readouts for your models of interest.