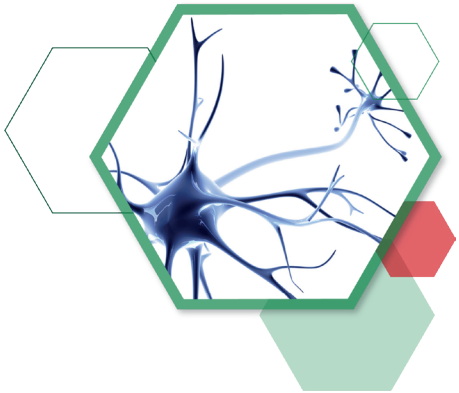
InnoSer | a smart road to better health

Mouse Behavioral Tests



Thorough assessment of clinically relevant phenotypes by conventional or automated analyses

Assessments of cognitive, motor, and social behaviors are an essential part of neurology therapeutic's development programs and can have a great impact on safety and efficacy claims. Through a broad portfolio of rodent behavioral tests, InnoSer helps you gather robust and reliable results for a convincing profile of your investigational agent. Thanks to state-of-the-art technologies and scientific expertise, we not only help you select optimal tests for answering your research question, but we also apply validated protocols and provide comprehensive reporting on your collected and analyzed data.

Choose complimentary behvioural tests for your research

Cognitive Tests		
Self-paced 5csrt task	8 arm radial maze	Nesting test
Avoidance learning	Barnes maze	Novel object
CognitionWall™	Fear conditioning	Novel object recognition
Discrimination learning	Passive avoidance	T maze spontaneous alternation
CognitionWall™ reversal learning	Morris water maze	Y Maze spontaneous alternation

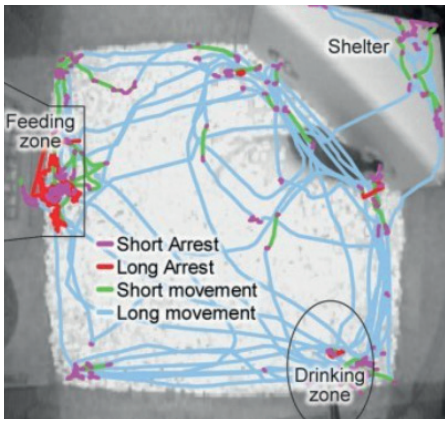
Automated Tests	Motor Function	Anxiety / ActivityTests
Spontaneous behavior in 115 parameters	Motor function spontaneous behavior	Automated home-cage based dissection of activity
Motor function spontaneous behavior	Catwalk automated gait analysis	Lightspot test
Anxiety Lightspot Test	Balance beam	Elevated plus maze
Avoidance learning	Rotarod	Light dark box
CognitionWall™ discrimination learning	Grip strength test	Novelty induced hypophagia
CognitionWall™ reversal learning	Treadmill	Open field test
Self-paced 5csrt task	Wire hanging	Running wheel activity
	Neurological motor scoring	Fear conditioning

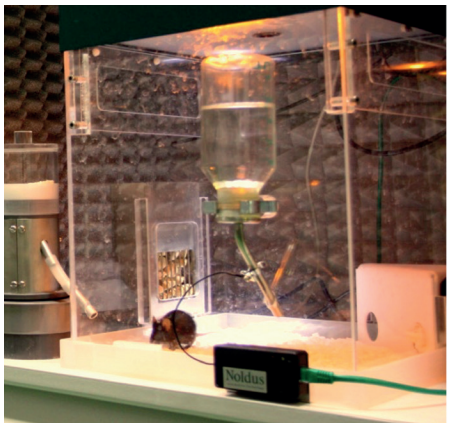
Sensorimotor Tests	Social Behavioral Tests	Drug Abuse Tests
Prepulse inhibition	Direct social interaction test	Conditioned place preference
Startle Response	Resident-intruder test	Drug self-administration
	Three chamber sociability test	
	Tube test	

Automated behavioral screening in stress-free environment (PhenoTyper home-cages)

The automated and continuous monitoring in the home-cages (PhenoTyper) allows for highly sensitive readoutcollection, analysis, and reporting of behavior without human intervention. Advantages of home-cages include:

- Reducing stress levels of the animal, which may otherwise lead to biased results
- High sensitivity to subtle differences
- High reproducibility of the test conditions
- Effective analysis of multiple behaviors simultaneously
- Fast turnaround (starting from 48 hours) and secure data transfer
- Cost efficiency by reducing workforce need
- Automated data collection and bioinformatical data analysis (AHCODA)





Example models and readouts

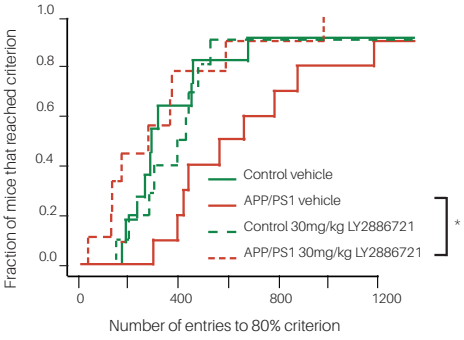


FIGURE 1. Transgenic Alzheimer's disease model shows significant learning impairments. In the automated CognitionWall ™ test, deficit in discrimination learning of APP/PS1 transgenic mice can be rescued by an acute dose of the BACE1 inhibitor LY2886721 administered 3 hours before the onset of the task.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

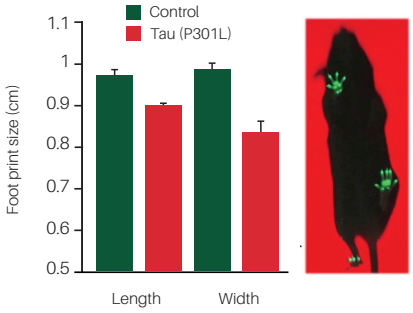


FIGURE 2. Catwalk automated gait analysis system provides quantitative assessment of gait and locomotion in mice. Tau transgenic mice (MAPT*P301L) present motor function deficits in gait analysis using the Catwalk.

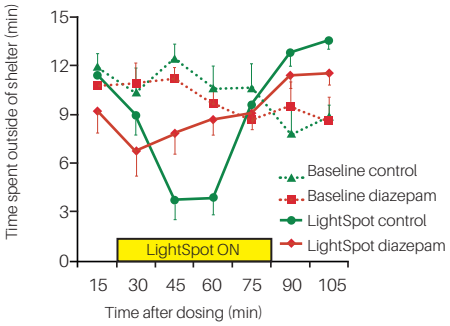


FIGURE 3. One-night anxiety test measures an animal's response to an anxiogenic stimulus in an automated home-cage. When a bright LightSpot is switched on during the dark phase in the automated home-cage, control treated mice spend less time outside of the shelter. This anxiety phenotype can be reversed with the golden-standard anxiolytic drug diazepam.

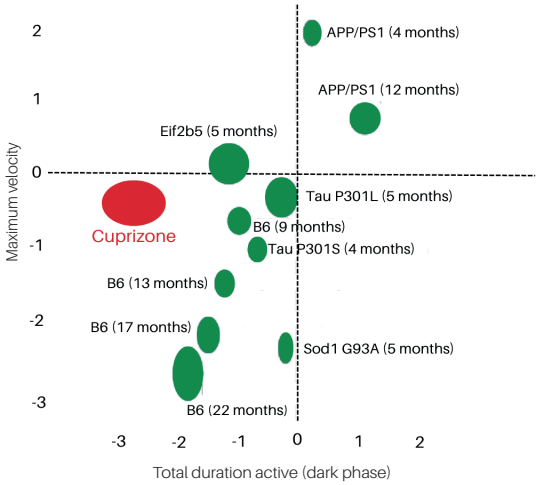


FIGURE 4. Spontaneous behavior analysis. Effect size plot shows a specific decrease in velocity and activity during the dark phase in Cuprizone-treated mice in comparison with naturally ageing B6 mice and other neurodegeneration models.

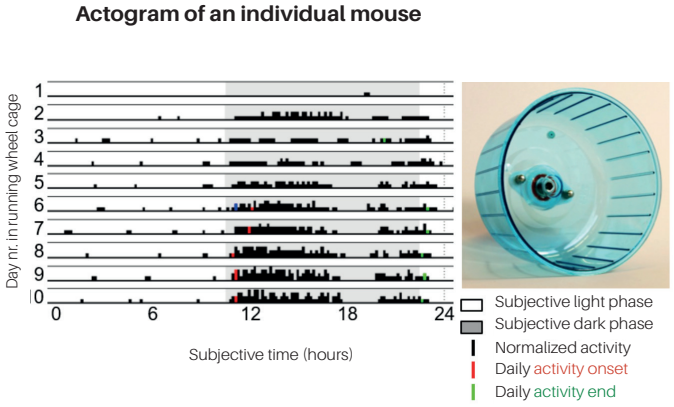


FIGURE 5. Voluntary wheel running can be used to assess the physical performance, model exercise training, and general health of mice. The automated cage setup proves to be useful in detecting pharmacological effects on activity, circadian rhythms and endurance.