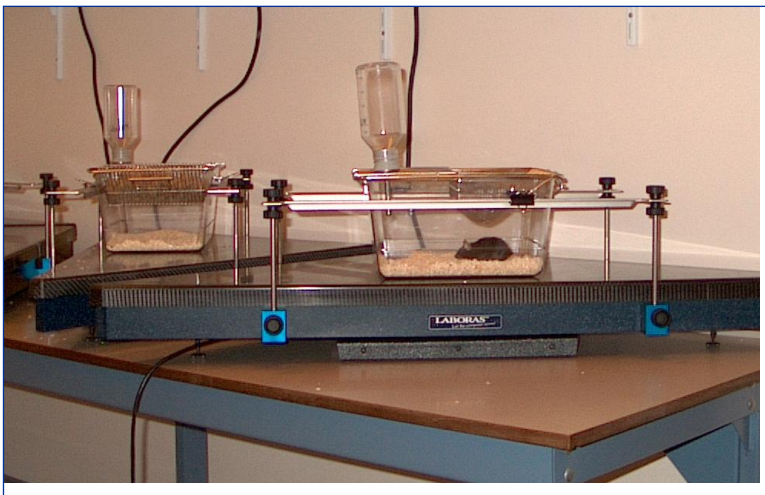
METRIS

Animal Behavior Analysis Solutions

LABORAS™

Let the computer score!

Automated behavior recognition and motion tracking



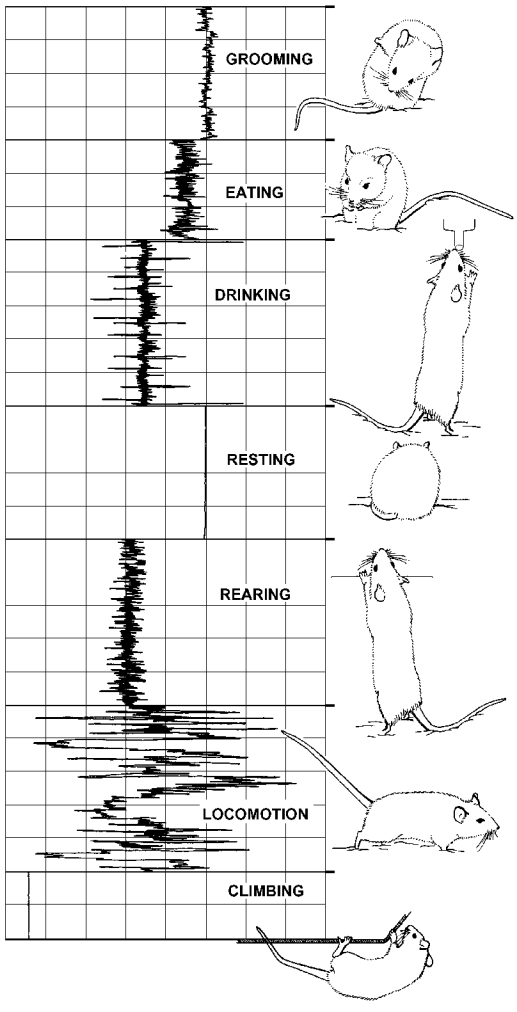
LABORAS is the superior system for automated recognition of a large variety of rat and mouse behaviors as well as motion parameters.
LABORAS is the first system that enables reliable high throughput testing of detailed behavioral responses.
Excellent scientific validation and behavioral definitions by ethologists guarantee a high quality of the LABORAS data.

The LABORAS system

LABORAS is an efficient, validated and non-invasive technology, based on force measurement and pattern recognition techniques. The triangular shaped sensor platform records all movements evoked by the animal. Each behavior has its own unique signal signature which can be detected by the software to identify a behavior. The system is currently the only one in the market that is able to determine a large number of different (validated) normal and stereotypical behaviors without involvement of human observers.

Normal Behaviors:	Special Behaviors
- Climbing (in mice)	- Scratching (in mice)
- Locomotion	- Seizures (in mice)
- Immobility	- Purposeless Chewing (in rats)
- Rearing	- Hindlimb Licking (formalin test in rats)
- Grooming	- Wet Dog Shakes (in rats)
- Eating	- Head Shakes (in rats)
- Drinking	- Head Twitches (in rats)

In addition it provides the following tracking parameters: position, speed, maximum speed, average speed, traveled distance, position distribution and circling parameters.
Metris continues to develop new validated behavior detection software and tailor made algorithms.



About Metris

Metris is a solution provider for automated animal behavior analysis. We offer both off the shelf and tailor made solutions for non-invasive measurement of animal behavior. All solutions provided contribute to a further Refinement, Reduction and Replacement of laboratory animal research. Metris actively works together with trend setting research institutes and companies and has several strategic alliances with other market leaders in the field of animal behavior research.

In addition to LABORAS, Metris also offers SONOTRACK (a system for recording, analyis and playback of Ultrasounds) and SLEEPSIGN (a software package that automatically identifies several sleep stages based on EEG and EMG).

Metris B.V.

PO Box 3023 ● 2132 KA Hoofddorp ● The Netherland ● Tel. +31(0)23 5623400 ● www.metris.nl ● info@metris.nl

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Unique Features of LABORAS

Multi Purpose test system:
LABORAS can be used for a variety of different tasks (see table on the right) and can be applied in several stages of the drug development process.

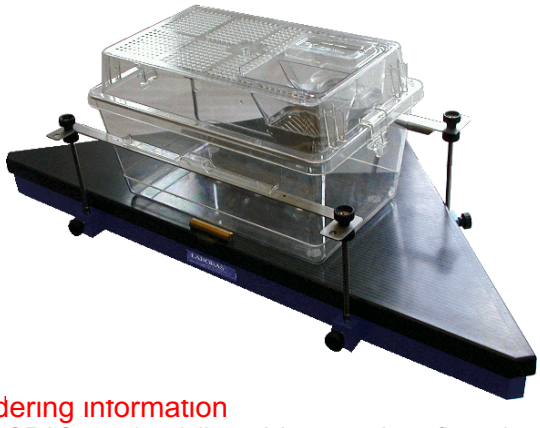
More experiments in less time with fewer animals:
LABORAS increases the throughput and reduce lead time of your experiment, reducing the number of animals and improving the efficiency of your research.

Standardization of tests:
LABORAS is a valuable tool to standardize behavioral measurements, including disciplines falling under GLP regulations.

Quality of data:
LABORAS is free of observer bias and provides high quality data independent of laboratory and training level of the observers.

Detection of fast and short behaviors:
LABORAS detects behaviors that are extremely difficult or impossible to score consistently, such as very short or fast behaviors.

No light or video required:
LABORAS doesn't use video and can therefore be used in absolute darkness. LABORAS only generates 1MB of data per hour per cage.



Ordering information

LABORAS can be delivered in several configurations. Depending on your research requirements you can choose, the number of platforms, the species and behaviors of interest.

More information can be obtained through our website or by contacting Metris B.V. or one of our qualified distributors.

LABORAS test	RESULT
Target discovery for future drug development	
Behavioral phenotyping transgenic mice	Full ethogram & motion tracking
Drug Development : Lead finding & optimization	
Primary observation test	Adverse drug effects
Open field test	Sedative/stimulant properties, Anxiolytic properties
Light-dark test	Anxiolytic properties Sedative/stimulant properties
Marble burying test	Anxiolytic properties Sedative/stimulant properties
Sociability test	Social preference
Preferences tests	Eg. Place preference, avoidance behavior
Memory tests	Cognitive enhancement
Pain test: hind limb licking (formalin induced)	Analgesic properties
Dermatology / Allergy test (scratching)	Skin protective effects
Drug Development: Pharmacological mechanism of action	
Induction or suppression of hyper- or hypolocomotion polydypsia grooming scratching climbing turning/circling behavior wet dog shakes, head shakes, head twitches seizures (tonic-clonic, barrel rolls) oral dyskinesia (chewing)	Pharmacological efficacy of (potential) leads: agonist - antagonist
Safety Pharmacology / Toxicology	
Telemetry & Behavior	Integrated cardiovascular, CNS and behavioral data (BP, HR, EEG, full ethogram)
Chronic toxicology test	Chronic behavioral effects, sensitization
Feeding / drinking test	Hypo- or hyperphagia ; Hypo- or polydipsia
Natural behavior & animal welfare research	
Home cage behavior - longterm	Full ethogram & motion tracking
Circadian rhythm - longterm	Sleep-wake patterns
Cage enrichment test	Preference for eg. bedding type, objects

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