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MEDPro™ Mouse Estrus Detector

Description

Mouse Estrus Detector by ELMI uses a clever method to tell when a female mouse is ready to reproduce (a phase called estrus).

MEDPro™ is a fast, accurate, and animal-friendly tool that uses electrical signals to detect when a mouse is ready to breed, improving research practices and animal welfare.

Why the device is needed:

- Female mice go through different phases in their reproductive cycle, and knowing when they are in the estrus phase is important for breeding, experiments, and minimising the number of animals needed for research.
- Current methods, like checking vaginal cells under a microscope, are slow and stressful for the mice.

MEDPro Östrusdetektor für Mäuse

How it Works

The device has a small, smooth probe that is gently inserted into the mouse's vagina. Electrical resistance measurement: The probe sends a tiny electrical signal that is too weak to harm the mouse, but strong enough to measure the resistance of the tissue in the vagina. The resistance changes depending on the stage of the mouse's reproductive cycle.

During estrus, the tissue has higher resistance compared to other phases. If the device measures a resistance above a certain threshold (approximately 6 kΩ), this signals to researchers that the mouse is in estrus.

The procedure takes only a second and is not painful for the mouse.
The device is more reliable and faster than older methods such as visual checks or laboratory tests of blood and urine.

Breeding and experiments can thus be planned more effectively and the number of animals required can be reduced. Furthermore, the use of this method complies with the 3R principle: avoiding, reducing, and improving the use of animals in research.

MEDPro Sonde

Articles and Publications

1. International Journal for Molecular Science Advancing 3Rs: The Mouse Estrus Detector (MED) as a Low-Stress, Painless, and Efficient Tool for Estrus Determination in Mice
2. Laboratory Animals for Science Inctrumental Method For Determining The Estrous Cycle Stages In Small Laboratory Rodents

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MEDPro™ Mouse Estrus Detector

Technical Data

Order No.:	103.0051
Measurement range	0 – 50 kΩ
Accuracy	0.1 kΩ
Operating frequenzing (sinusoidal)	1
Mode	Auto, Manual
AV (sinusoidal) through probe electrodes (Auto and Manual mode)	0.4 – 4.0 mV
Maximum AC through probe electrodes (Auto mode)	< 1 µA
Maximum DC through probe electrodes (Auto and Manual mode)	< 1 µA
Probe	L20 x O.D.1.82 mm
Dimensions (without cable)	L138 x O.D.12.5 mm
Weight (without cable)	30 g
Color graphic 2.4” Touch Display, Dimensions	117 × 79 × 33 mm
Weight (including batteries)	220 g
Battery, 1,5 V, AA, element	3
Battery life (continous operation)	> 12 h
Cable AUX Jack 3.5mm Male to Male Audio for Headphones	1 m

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