BIOSEB
In Vivo Research Instruments

ACTIVITY - MOTOR CONTROL & COORDINATION • SPONTANEOUS PAIN - POSTURAL DEFICIT • PAIN - MECHANICAL ALLODYNIA / HYPERALGESIA • **PAIN - THERMAL ALLODYNIA / HYPERALGESIA** • ANXIETY & DEPRESSION DISORDER • LEARNING - MEMORY - ATTENTION - ADDICTION • PHARMACOLOGY & PHYSIOLOGICAL PARAMETERS • SURGERY & STEREOTAXY EQUIPMENT • METABOLISM

AN INNOVATIVE, ACCURATE AND EASY-TO-USE INSTRUMENT FOR YOUR RESEARCH ON ANALGESIA

BIO-CHP:
Dynamic Cold/Hot Plate

INSTRUMENT OVERVIEW

Bioseb's Dynamic Cold/Hot Plate Test is an innovative instrument opening **new investigation fields for your analgesia research** by allowing you to test animal's sensitivity to pain resulting from exposure to heat or cold.

Thermal stimulation is a common technique to assess peripheral sensitivity threshold. It is a standard test along with mechanical stimulation for a large spectrum of pain related research and to control for other behavioural assays.

Bioseb's Cold Hot Plate is a **user-friendly device** to measure thermal pain resistance / sensitivity resulting from **exposure to heat or cold**. An electronic thermostat maintains the temperature within the broad range of -2°C to 55°C (European Ethical guidelines) with a surface temperature uniformity of ±0.2°C, avoiding movements to a more comfortable zone and biased results. For special applications, our extended version (BIO-CHP-ER) allows setups in the range of -5 °C to +65°C. Its sturdy and fast Cooling/Heating system makes it **the most reactive, and hence dynamic device on the market**.

Equipped with transparent enclosure, a front panel digital thermometer that displays the current plate temperature, and a chronometer to count the stimulation duration, it is a perfect stand-alone solution.

HOW DOES IT WORK?

Set the plate to the chosen temperature and wait for the thermometer to display it has been achieved. Place the subject on plate within the enclosure and start the built-in chronometer using the button on the front panel or the foot pedal.

The operator stops the chronometer when the animal demonstrates a nociceptive response, such as paw lick, hind paw withdrawal, or jump. Reaction time remains displayed in seconds on the front panel until zeroed.

Bioseb designed the CHP as a stand- alone instrument. Its capacity can be augmented by optional software for programming temperature ramps and looping protocols.

DOMAINS OF APPLICATION

- Neuropathic pain
- Chronic pain
- Allodynia/Hyperalgesia
- Phenotyping
- Neurodegeneration
- Nerve injury
- Mood disorders

see out website for more specific applications...

KEY FEATURES

- Standard CHP works from -2 to 55 °C
- Extended CHP works from -5 to 65 °C
- Homogeneity all over the plate, at any temperature
- Fastest on the market to reach target temperature
- Embedded thermometer and timer
- Optional red colored transparent cage (BIO-CHP-CAGES-R)
- Expandable to thermal preference testing

TECHNICAL SPECIFICATIONS

Dimensions - Enclosure	Enclosure: 350 x 170 x 170 mm ; Plate: 165 x 165 mm
Temperature range	-2 °C. to 55 °C (in 20 to 25 °C ambient environment, 50% RH)
Extended temperature range	-5 °C. to 65 °C (in 20 to 25 °C ambient environment, 50% RH)
Temperature accuracy / uniformity	Accuracy: +/- 0.5 °C. ; Uniformity on plate: +/- 0.2 °C.
Time to reach target temperature	20 °C to -2 °C : Less than 15 min. ; 20 °C to 55 °C : Less than 2.5 min.
Weight	6.7 kg

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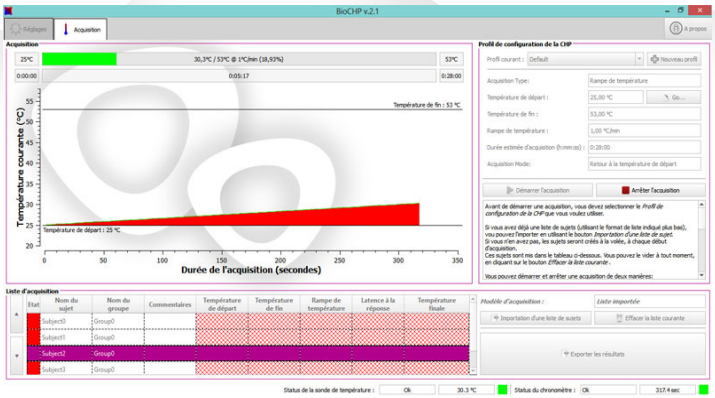
BIO-CHP: Dynamic Cold/Hot Plate

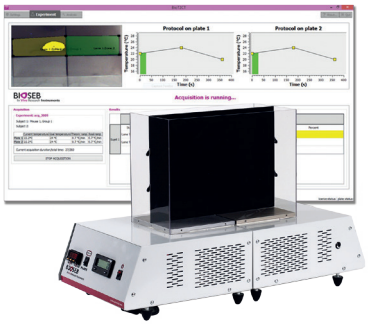
OPTIONAL SOFTWARE: BIO-CHP-RAMP

Though it is functional as a stand-alone instrument, the Cold Hot Plate Test Analgesia Meter can also be used with optional software, allowing the user to define temperature «ramps» and «Loops».

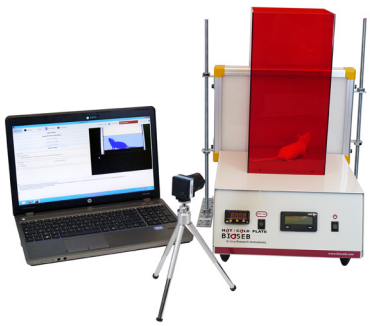
- Software controls the temperature for generation of a continuous and reproducible ramp or loop
- Ramps allow for identification of the precise nociceptive behavior-inducing temperature for each subject
- Loop protocol design is useful for subject acclimation
- Pre-set temperature limits can be programmed to prevent damage to animal's paws and minimize pain/stress to animal



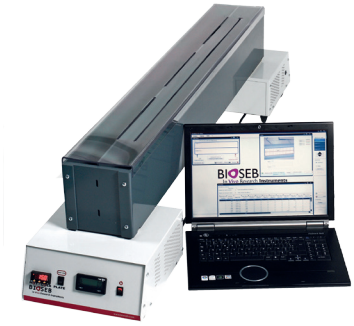
THE CORE OF A SUIT OF THERMAL PREFERENCE & EVOKED PAIN EVALUATION TOOLS



Two Temperature Choice Test
Track animal position while experiencing two temperature paradigm.



Jump Test
Evaluate the escaping behaviour of mice experimenting a ramp of cold and hot temperatures over a plate.



Thermal Gradient Test
Automatically track the position of a rodent exposed to a gradient of temperature.

HIGHLIGHTHED BIBLIOGRAPHY See latest publications on our website

Effect of 1-hydroxy-1,1-ethylidendiphosphone acid, bis(2-pyridyl-1,2,4-triazolyl-3)propane and their adduct on the pain sensitivity of rats pyridyl-1,2,4-triazolyl-3)propane and their adduct on the pain sensitivity of rats, Scientific notes of the Crimean Federal University (2019), Cheretaev I. V. et al.

Effects of resveratrol in the signaling of neuropathic pain involving P2X3 in the dorsal root ganglion of rats, Acta Neurol Belg. (2019), Guo J. et al., DOI: 10.1007/s13760-019-01126-2.

Loss of bhlha9 Impairs Thermotaxis and Formalin-Evoked Pain in a Sexually Dimorphic Manner, Cell Rep. (2020), Bohic M. et al., DOI: 10.1016/j.celrep.2019.12.041.

ORDERING INFORMATION

Reference	Description
BIO-**CHP**	Dynamic Cold/Hot plate for mice or rats (-2 to 55°C)
BIO-**HP**	Dynamic Hot plate for mice or rats (30 to 55°C)
BIO-**CHP-ER**	Dynamic Cold/Hot Plate Extended Range (-54 to 65°C)
BIO-**CHP-RAMP**	Software for Dynamic Cold/Hot plate

Contact us for more details
info@bioseb.com

FOR MORE INFORMATION, VISIT OUR WEBSITE: WWW.BIOSEB.COM/WHEELS

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