

A FASTER AND MORE ACCURATE ALTERNATIVE TO THE RANDALL & SELLITO TEST FOR BOTH RATS AND MICE



BIO-RP: Rodent Pincher Innovative Algometer



INSTRUMENT OVERVIEW

Our Rodent Pincher algometer allows calibrated forceps to induce **quantifiable mechanical stimulation in rats or mice on a linear scale**. The most suitable protocols were defined by determining the effects of 3 repetitive measurements on 2 hindpaws over long-term (9 days), mid-term (1 day) and short-term (2 hours). It was primarily developed as an analgesimeter for nociceptive tests.

Comparative studies (including vs. the Randall & Sellito test) demonstrated the accuracy of our pincher for easy, fast & reproducible measurement of mechanical pain threshold on rat limbs. Moreover, it enables rat analgesia testing with minimal constraint, which reduces data variability.

HOW DOES IT WORK?

The **pressure is applied in the "inter-digital" region**. When used on rats, the pressure **can also be applied to the tail**. The instrument displays the force (in grams, newton, oz, lbs) at which the animal reacts and reports the nociception threshold.

Individual pain threshold measurements (up to 100) are stored in the internal memory, and can be downloaded post-experiment. An embedded statistical computation is included in the electronic device of the algometer. This very useful feature has been very well received and used by operators on large numbers of tests.

The **display shows in real time the mean, standard deviation and variation coefficient** for groups of animals (rats or mice). This feature also allows the user to cancel any analgesia test incorrectly performed.

KEY FEATURES

- More ethical handling, less stressful for the animal
- Less measurement variability
- Faster measurement, less traumatic for the tissues
- Digital measurement with metrological traceability
- An innovative alternative to the Randall & Sellito test



Our new pincher design allows the mounting of custom-made bits

TECHNICAL SPECIFICATIONS

Animal	Rat or mouse (2 different pinchers)
Measuring Range	0 to 2000 grams
Units	Grams / newtons
Resolution	0,1 gram or 0,001 N
Results	Displays the current applied force and the max. applied force during the test
Statistic	Mean, standard deviation and variation coefficient
Power supply	Battery powered, autonomous / Possibility of using a 220V/110V 50hz/60hz adapter.)
Data output	RS232 for PC or printer
EMC	Controlled

BIO-RP: Rodent Pincher - Innovative Algometer

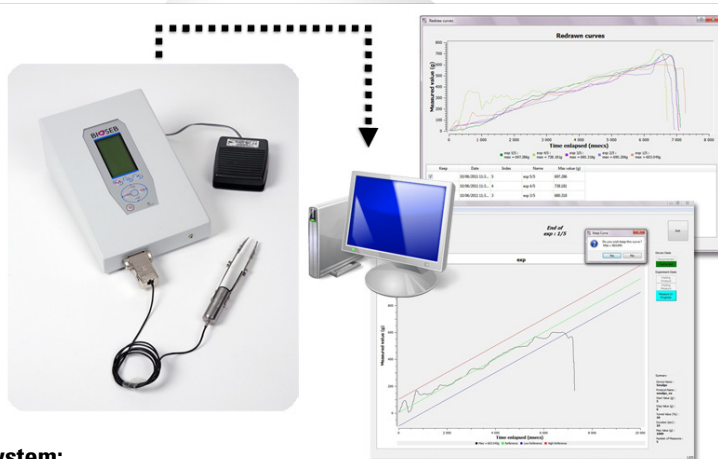


DEDICATED SOFTWARE

An **embedded statistical computation** has been included in the electronic device. This very useful feature has been very well received and used by users on large numbers of tests. The display shows in real time the mean, standard deviation and variation coefficient for groups of animals.

The **included BIO-CIS software** sends acquired data to a MS Excel sheet using the RS232 port and USB converter. Easy to set up, this interface also displays curves of the applied force vs. time for different trials, which is a useful function for training technicians and improve repeatability.

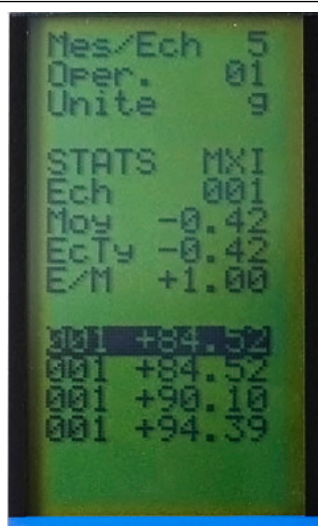
Bioseb's Bio-CIS software:
Export data from the Grip Test to Microsoft Excel



Following parameters are measured by the Rodent Pincher system:

- Maximum force applied as the animal reacts (movement, vocalization) (in grams, N, oz, lbs)
- Duration of the test (using Bioseb's BIO-CIS software) in seconds

EMBEDDED STATS



ALL-IN-ONE

In order to offer an answer to all your requests regarding different situations of pain measurement, the **SMALGO can also be combined to our Electronic Von Frey or Rodent Pincher**, all connected to one unique Control Unit: **the All-in-One Algometer**.



DOMAINS OF APPLICATION

Our Rodent Pincher can be used for **a variety of research on nociception and analgesia**:

- In vivo models evaluation of pain
- Mechanisms related to mechanical nociception
- Whenever a calibrated force is necessary

It can also be used for applications requiring **a controlled force or pressures values**:

- Sensitivity recovery after nerve crush: pinching is applied at several places over the paw to see the sensitivity recovery
- Mechanical injuries for thrombotic models
- Mechanical stimulation for in vivo electrophysiological recordings using the possibility to trigger recording on force thresholds

HIGHLIGHTED BIBLIOGRAPHY Exhaustive list on our website

... and much more!



Long-Term Behavioral Effects in a Rat Model of Prolonged Postnatal Morphine Exposure, *Behav Neurosci.* (2015), Craig MM, Bajic D et al., DOI: 10.1037/bne0000081

Corticosterone analgesia is mediated by the spinal production of neuroactive metabolites that enhance GABAergic inhibitory transmission on dorsal horn rat neurons, *Eur J Neurosci* (2015), Zell V, Juif PÉ, Hanesch U, Poisbeau P, Anton F, Darbon P et al., DOI: 10.1111/ejn.12796.

Characterization of the fast GABAergic inhibitory action of etifoxine during spinal nociceptive processing in male rats, *Neuropharmacology.* (2014), Juif PE, Melchior M, Poisbeau P. et al., DOI: 10.1016/j.neuropharm.2014.12.022

ORDERING INFORMATION

Reference	Description
BIO-RPM	For mice
BIO-RPR	For rats

DELIVERED WITH

- Desktop stand for easy reading
- Footswitch to reset the zero of the rodent pincher analgesimeter while keeping hands free.
- RS232 output to transfer displayed data to a PC.
- Our new pincher design allows the mounting of custom-made bits to suit your most specific needs & applications. Please contact us for details.

Contact us for more details: info@bioseb.com

Options

- Our optional BIO-CIS software for Windows to send values to Excel.

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

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