BIOSEB
In Vivo Research Instruments

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

A QUICK, EASY TO USE AND RELIABLE INSTRUMENT TO ASSESS THRESHOLD SENSITIVITY

SMALGO
SMall Animal ALGOmeter

INSTRUMENT OVERVIEW

Bioseb's SMALGO (SMall animal ALGOmeter) is a new pressure-based analgesimeter **especially designed for small animals like rats and mice**.

The **threshold sensitivity** of the animal (rats or mice) is **quickly and reliably determined by applying a progressive force**. The threshold is immediately displayed on the electronic device in grams or Newtons.

SMALGO can also be used for screening purposes applying a known force for a considered period.

NEW: ALL-IN-ONE ALGOMETER SOLUTION

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**.

HOW DOES IT WORK?

Once the operator adjusted the algometer to their index or thumb, and thanks to the miniature size of the apparatus, they can apply a progressive pressure to the relevant location on the animal, **as if they were applying the pressure directly with their own finger**.

The **pressure value triggering an escape reaction is automatically determined and displayed** on the screen of the instrument.

The sensor has a 1500 grammes capacity with 0,1% accuracy and can thus be used for both rats and mice - two different rounded bits with different surfaces are provided to fit the different species and applications.

The **BIO-CIS software is included**, displays the applied force and can be used either to train operators on force application to improve repeatability or to compare and discard off-limit trials.

KEY FEATURES

- Easy to use and reliable
- Works for both rats and mice
- Can determine the pain threshold with a progressive force
- Can be used to screen drugs with a given force
- Threshold is immediately displayed
- Automatic determination of the pressure value triggering an escape reaction
- Includes a software for data transfer to excel
- Optional footswitch: reset the display hand-free

Stainless steel tips of 3, 5 or 8 mm

An innovative sensor

Bioseb's SMALGO fits on your finger (thumb or index) and allows to easily apply a force or pressure on the desired location. Designed for OA quantification, it is generally used on the knee joint or on the lumbar vertebrae for low back pain assessment.

Phone: North America +1 727 521 1808 - Europe & other Areas +33 442 344 360 - Email: info@bioseb.com WWW.BIOSEB.COM

SMALGO: Bioseb's SMall Animal 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 Smalgo, Electronic Von Frey & Pincher to Microsoft Excel

DOMAINS OF APPLICATION

- Osteo-arthritis (for instance Pain by Percutaneous Injury-Induced Lumbar Facet Joint Osteoarthritis)
- Drug screening: Rapid Precise Screening of Analgesic Drugs
- Phenotyping: improvement assessment of functional recovery and/or hyperalgesia
- Neuropathy: Detection of Neuropathic Pain after Spinal Cord Injury
- Inflammation: Assessment of Anti-Inflammation and antinociceptive effects of drugs
- Post-operative pain: especially suitable for Spinal Cord Injuries

HIGHLIGHTHED BIBLIOGRAPHY Exhaustive list on our website

Development of an Experimental Animal Model for Lower Back Pain by Percutaneous Injury-Induced Lumbar Facet Joint Osteoarthritis, J Cell Physiol (2015), Kim JS et al., DOI: 10.1002/jcp.25015

Erythropoietin Restores C-Fiber Function and Prevents Pressure Ulcer Formation in Diabetic Mice.
J Invest Dermatol. (2011), Demiot C et al., DOI: 10.1038/jid.2011.211

Endogenous Opioids Released During Non-Nociceptive Environmental Stress Induce Latent Pain Sensitization Via a NMDA-Dependent Process.
J. Pain (2011), Le Roy C. et al, DOI: 10.1016/j.jpain.2011.04.011

Evidence for a differential opioidergic involvement in the analgesic effect of antidepressants: prediction for efficacy in animal models of neuropathic pain?
Br J Pharmacol. (2011), Wattiez AS. et al, DOI: 10.1111/j.1476-5381.2011.01297.x

TECHNICAL SPECIFICATIONS

Measuring Range	0 to 1500 grams (15 N)
Sensitivity	0.1 gram or 0.01 N
Tips	3, 5 or 8 mm diameter (stainless steel)
Sampling speed	Automatically detects the response to pain at 1000 Hz
Overload protection	200%
Display	Extra-large to read both peak (threshold) applied force and current force values
Dimensions	178x85x151 without probe
Memory	SMALGO includes internal memory for 100 measures . Easy to use internal statistic package for a quick check between animal groups.
Output	To PC via RS232-USB and BIO-CIS dedicated software.
Power	From the main or using the embedded rechargeable battery (autonomy: 8 hours)

ORDERING INFORMATIONS

Reference	Description
BIO-**SMALGO**	Complete Smalgo Device
BIO-**CIS**	Included Bio-CIS Software

SUPPLIED WITH

- Carry case, mains adaptor 110/220 V
- Control unit and its sensor (cable is 1 meter long)
- 3 sensor tips 3, 5, 8 mm diam.
- Software BIO-CIS include
- RS-232-USB cable to plug it to a laptop under windows OS .
- *Option*: USB footswitch to reset the display with hands free

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

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

Phone: North America +1 727 521 1808 - Europe & other Areas +33 442 344 360 - Email: info@bioseb.com WWW.BIOSEB.COM