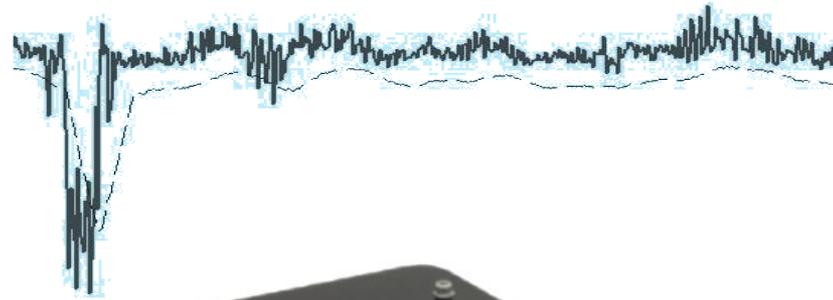


Wmicrotracker MINI



Wmicrotracker® MINI features innovative technology that allows you to obtain real-time information about the behavior and viability of populations of small animals grown in liquid medium. The "Equipment + Software" system is optimized for quickly and easily quantifying the locomotor activity of small organisms in 96-well microplates. This system is a simplified and cost-effective version of the "WMicrotracker ONE".



Many biological assays are complex to perform, requiring great manipulation skills and analysis time. This makes the work tedious and limits experiments based on their level of difficulty. Therefore, at Phylumtech, **our vision is to provide unique, agile, and real-time solutions that enable immediate, reliable, and reproducible results.** Founded in 2009 as a joint venture between the public and private sectors, we combine the latest advances in science and research with cutting-edge technologies.

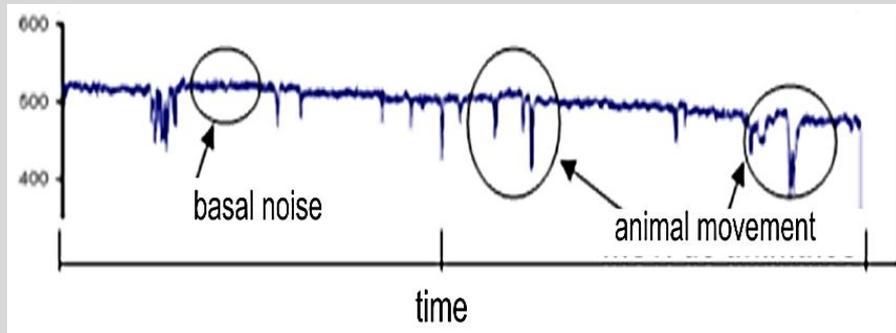
After years of experience, we have invested in the **development of accessible High Throughput** products. In this opportunity, we present the **Wmicrotracker® MINI**, a low-cost system based on non-invasive technology of infrared microbeams and photosensors. Developed with CONICET and protected by international patents, **MINI allows the quantification of locomotor activity of small organisms in a 96-well microplate format.** The detection system is compatible with small organisms such as *C.elegans*, mobile stage parasites, *artemia salina*, and small insects.



HOW IT WORKS?

Based on an innovative system of 96 infrared microbeams, the system detects the small interferences generated by the organisms present in the sample. In this way, a pattern of activity is recorded, which will be processed by software specially designed for real-time data acquisition.

The digital analysis of signal changes (proportional to light intensity) allows us to detect the movement of the organism passing through the beam of light. A software calculates the number of activity events per time block.

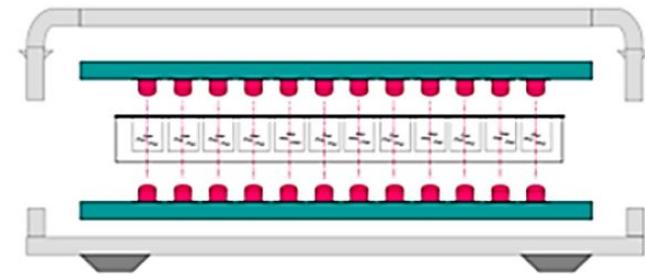
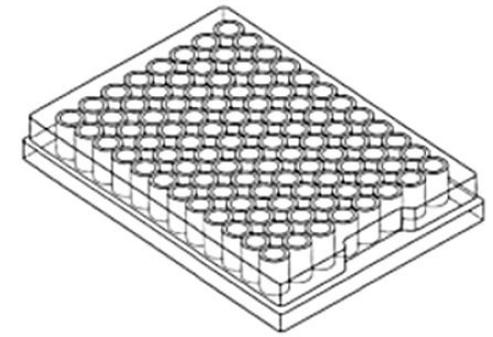


The device can perform High Throughput assays in liquid medium in the following microplate formats:

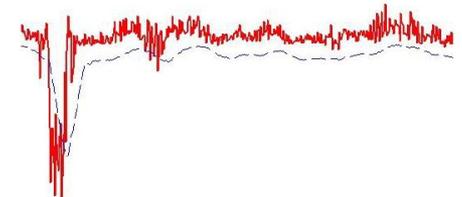
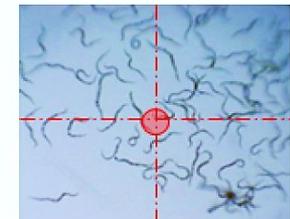
96-well flat bottom [1 IR beam/well]

96-well U-bottom [1 IR beam/well]

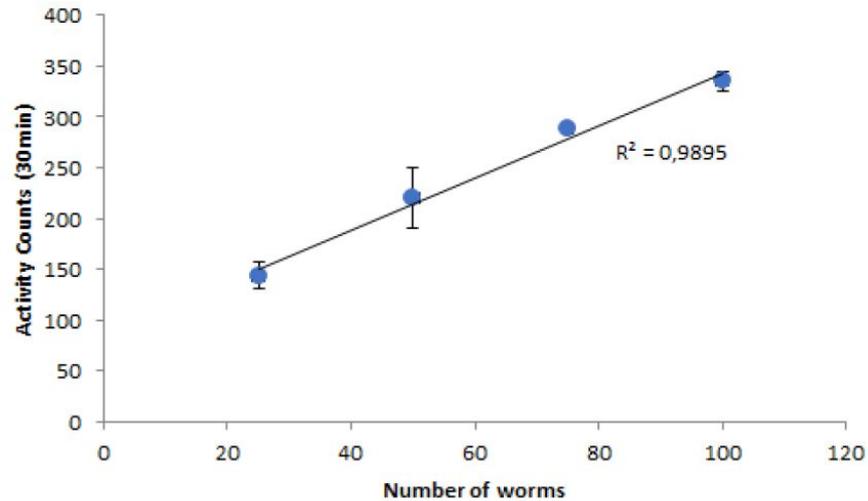
8 to 32 Glass tubes for small insects (4-6 beams per tube)



Infrared locomotor tracking system
(Worm Microtracker)



A

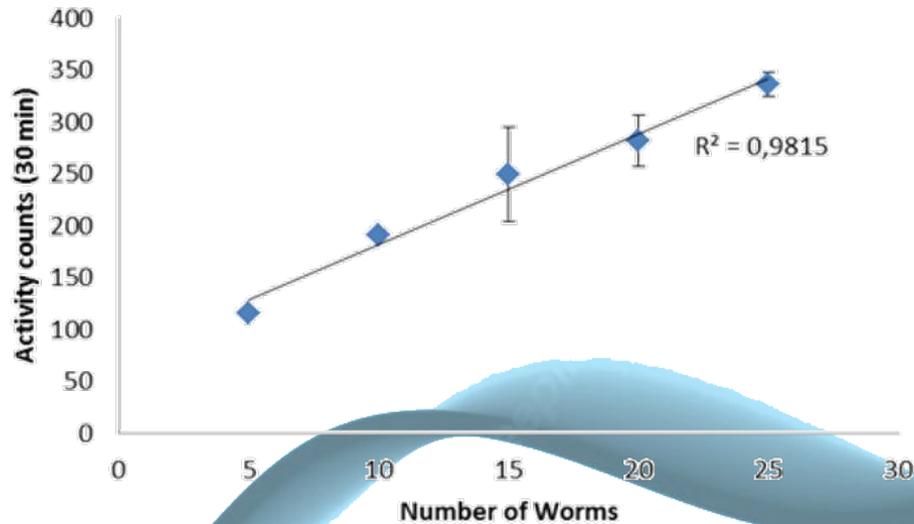


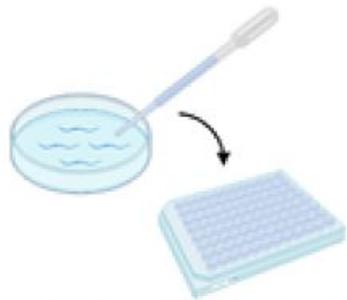
A. Curve in 96-well flat bottom microplate. The system has a linear detection range between 25 and 100 young adult N2 worms. $R^2 = 0.99$

B. Curve in 96-well U-bottom microplate. The system has a linear detection range between 5 and 25 young adult N2 worms. $R^2 = 0.98$

The bars represent +/- S.E.

B





(A) Transfer 20 young adults worms in 90 μ l to 96-well "U" bottom plates

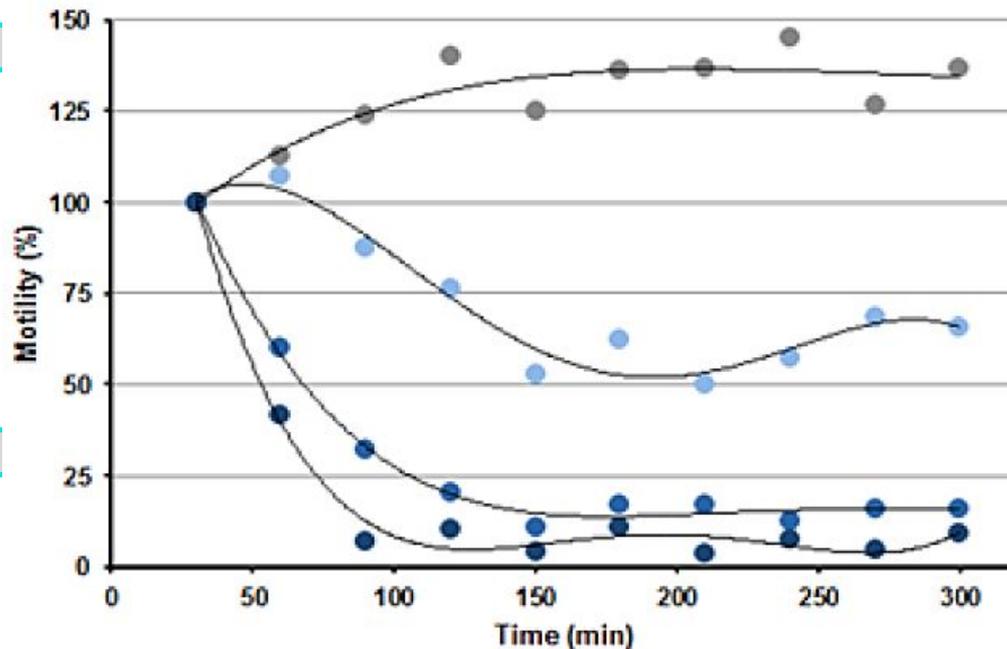


(B) Add 10 μ l of a 10X concentrated solution of chemicals



(C) Record the activity of the plate with worms using wMicroTracker

RESULTS

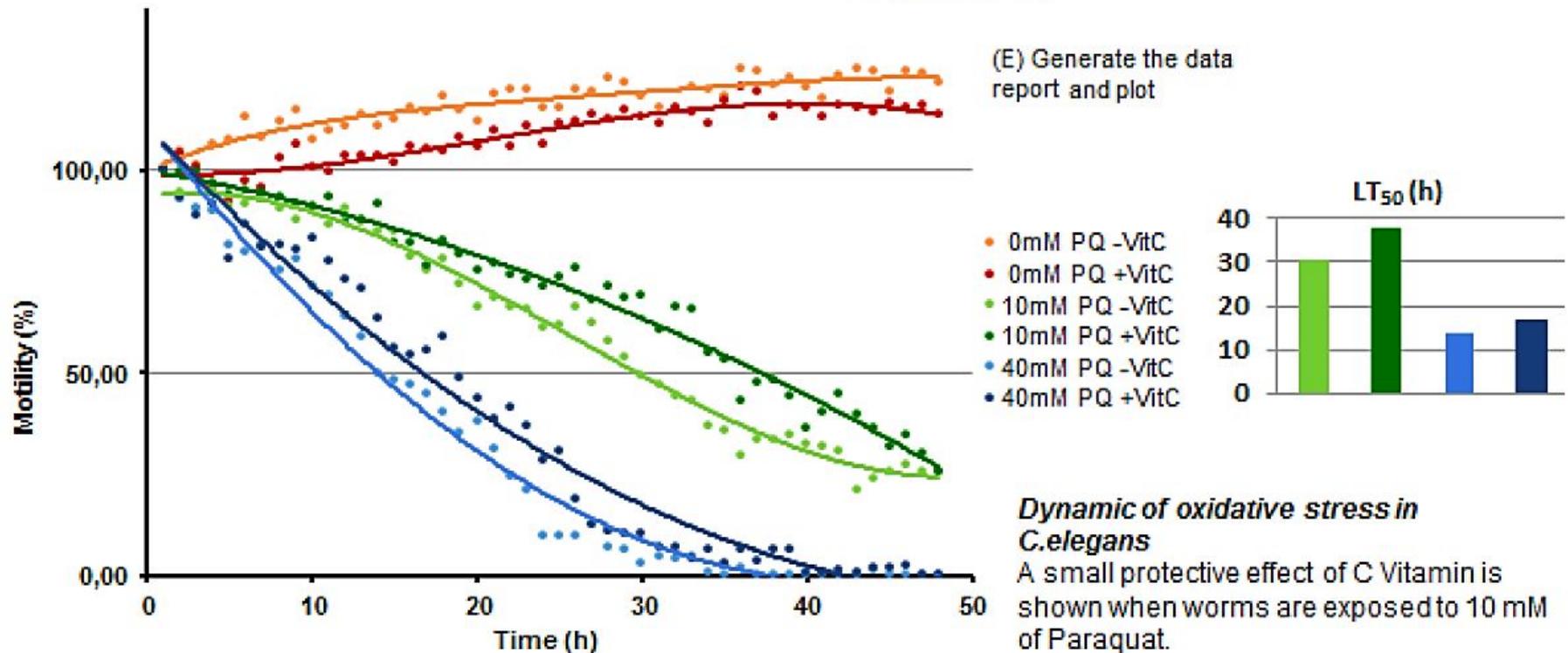
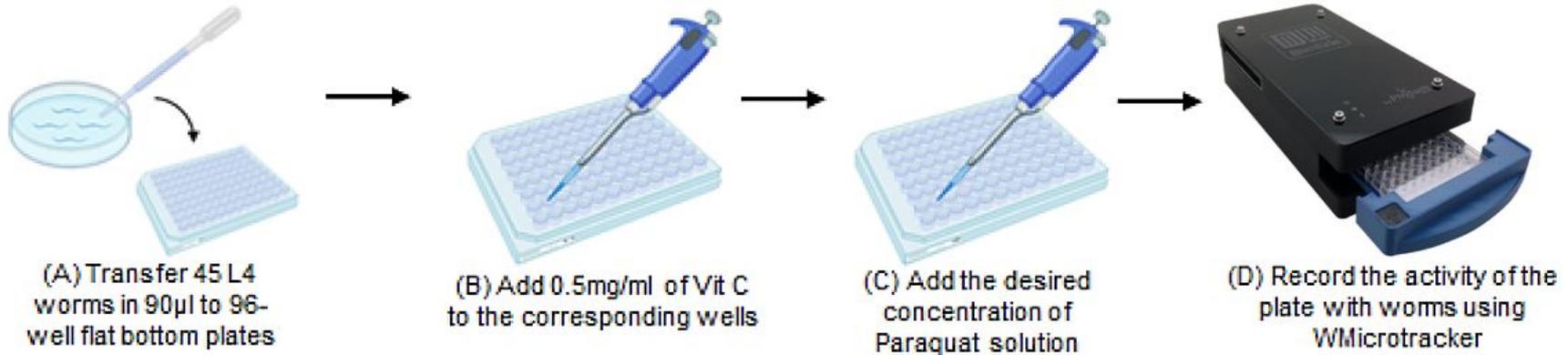


(D) Generate the data plot

- Control
- Levamisol 5 μ M
- Levamisol 10 μ M
- Levamisol 100 μ M

Kinetic of paralysis of C.elegans using levamisole and in W96

In these experiments we can observe the kinetic and dose response to Levamisole. In less than one hour a quantitative dose response effect is obtained.



Components included



	Microplate reader system.		5V DC, 1Amp switching Power Source + Splitter (*) with USB-B cable connexion
	USB-B/USB-A cable.		Acquisition Software: available from www.phylumtech.com

Measurements

13.5 cm x 27cm x 7.5cm (5.32 in x 10.63 in x 2.95 in)

Requirements

- IBM PC compatible with the following minimum requirements :
 - o Pentium II processor or above (>1GHz clock).
 - o 512Mb of RAM memory.
 - o 1 USB port available.
 - o Windows XP 32bits (or higher) operative system.
 - o At least 200Mb of free HD space.
- Ambient operating temperature of 15°C to 37°C with humidity below 50%. This range is for optimal functionality of equipment only; biological samples may have unique temperature requirements.
- Minimize the vibration and dust in your working area.
- Do NOT locate the instrument near a window or bright light.
- Automatic shutdown/sleep/hibernate mode must be disabled.