



Scientific Instruments

Peira HTSScratcher

PROBLEM

Using robotics, data processing and control software, liquid handling devices, and sensitive detectors, HTS allows researchers to quickly conduct millions of biochemical, genetic or pharmacological tests. This process allows rapid identification of active compounds, antibodies or genes which modulate a particular biomolecular pathway. The results of these experiments provide starting points for drug design and for understanding the interaction or role of a particular biochemical process in biology.

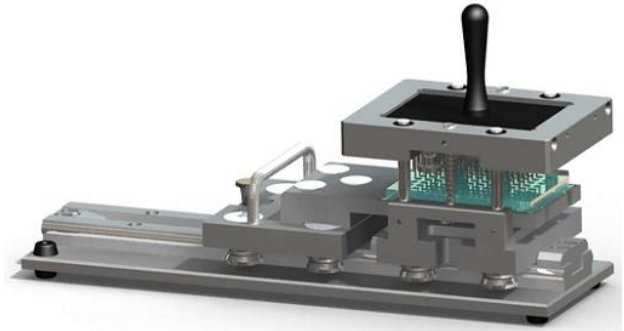
In essence HTS uses a brute-force approach to collect a large amount of experimental data - usually observations about how some biological entity reacts to exposure to various chemical compounds - in a relatively short time. The screen in this context is the larger experiment, with a single goal (usually testing a scientific hypothesis), to which all this data may subsequently be applied.

The in vitro scratch assay is a straightforward and economical method to study cell migration. The method is based on the observation that upon creation of a so called "scratch", that is a new artificial gap on a confluent cell monolayer, the cells on the edge of the newly created gap will move toward the opening to close the "scratch" until new cell-cell contacts are established.

Existing methodologies show a lack of consistency in generating those scratches. Gaps are made either with a hand tool or by specially developed but abruptly moving apparatus, disturbing the cell monolayers. For HTS experiments where thousands of well plates must be scratched consistently the preparation of assays can create a bottleneck.

FEATURE

The "HTSScratcher" was designed in close cooperation with HTS researchers in order to remove bottlenecks in the assay preparation phase of the experiment. The apparatus provides support and guidance for a commercially available hand tool which is commonly used. Four guidance shafts guarantee a perfect horizontal position of the scratch needles-plate relative to the well plate beneath. When lowering the tool, a controlled spring counterforce ensures the downward movement is smooth and controlled. When touching the well plate, the needle-tool can be moved horizontally over a determined distance, thus creating a scratch in the cell culture without damaging the plastic well plate. The sledge support which runs over eight polyamide rollers assures smooth transport and rapid removal and loading of the well plates.



BENEFIT

Easy to operate and to maintain.

Versatility as the apparatus can be used for a 96 well plate or for a 384 well plate.

Improved efficiency and effectiveness of the experiment.

TECHNICAL DATA

Dimensions (LxWxH): 454 x 138 x 157 mm

Weight: 8 kg

CE: The HTSScratcher fully complies with all CE guidelines relative to mechanical compatibility.

Scratch length : 1 to 12 mm (Adjustable)