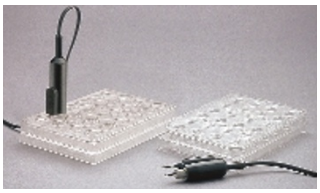
ON THE MARKET

MEANS OF MEASUREMENT



WPI's electrode for tissue resistance measurements.

STX100 is a new **electrode for transepithelial electrical resistance measurements** from World Precision Instruments. The stated reproducibility for tissue resistance measurement is less than 5 ohms. The electrode can also perform resistance measurements directly in a culture tray. Although the STX100 was developed to meet the high demand of the pharmaceutical industry's high-throughput screening protocols, it may also find use in research labs where precision, reproducibility, less disturbance to the cell and minimum contamination is required.

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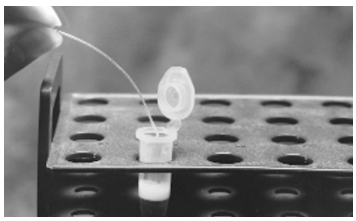

Flexible Teflon temperature measurement microprobes—off the shelf or custom ordered.

Physitemp Instruments offers a range of flexible Teflon **microprobes**. These fast-response probes are intended for implantation in brain and muscle tissue, blood vessels, and for use in spectrophotometer cuvettes, rectally in neonatal mice, and in water baths. Custom probes are also available on request. The flexible microprobes can be autoclaved or sterilized, and are available with a sensor lead as small as 0.009-inch in diameter. Small mass is said to result in fast response times, with time constraints as low as 0.005 s. All microprobes are made with Physitemp's copper/constantan thermocouple wire and are guaranteed accurate to a stated 0.1 °C within the physiological range. Probes do not require individual calibration.

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CHIPS WITH EVERYTHING

Suitable for applications in genomics, proteomics or glyconomics, the **modular biochip** XNA on Gold has now been launched by the German-based company Interactiva Biotechnologie. The new affinity-array biochip is designed to ask many molecular questions out of a single sample. Sensor elements ranging from nucleic acids to proteins could be applied to the chips due to universal streptavidin–biotin binding. It is said to provide a flexible strategy for identifying subtle differences in a nearly unlimited number of biological environments. XNA on Gold integrates thin-film technology based on a self-assembling monolayer, which offer surfaces with near-crystal properties. Long-chain thiol alkanes are chemically bonded on a layer of 24-carat gold only 1/10,000th of a millimeter thick.

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HOT HOUSES

New Brunswick Scientific's **large-capacity CO_2 incubator** offers the convenience of an integral cylinder changeover valve, which allows for automatic transfer as the first cylinder empties. The microprocessor-controlled Model CO28IR is intended for applications requiring precise control of CO_2 levels and features an infrared control sensor for maintaining constant levels of CO_2 to within a stated ±0.1%, regardless of changes in temperature or humidity. This is a useful feature for labs that require frequent access to the chamber, which is equipped with six removable, height-adjustable stainless steel shelves. Moreover, the water jacket is designed to provide uniform temperature distribution.

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The Cellhouse 170 HI **incubator** from Heto Holten is designed to provide precise measurement of temperature and CO_2 levels. The control system continuously surveys temperature, CO_2 and humidity and reacts automatically to optimize conditions in the chamber. Moreover, the heat profiling system eliminates the need for a fan and, as a result, the potential for contamination is reduced whilst culture conditions are improved, says the company.

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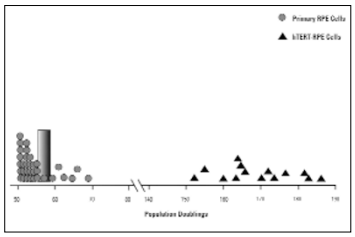
CELL LINES AND CELL CULTURE



hTERT-RPE1 cells—an attractive alternative for cell-based assays.

The hTERT-RPE1 cell line, a human retinal pigment epithelial (RPE) **cell line that stably expresses human telomerase reverse transcriptase** (hTERT), is now available from Clontech. The expression of hTERT in primary RPE cells allows them to grow indefinitely while remaining phenotypically and functionally normal. hTERT-RPE1 cells are said to divide at the rate of young primary cells—even after 300 doublings. Clontech says the cell line can be used in place of primary or transformed cell lines for long-term studies of biochemical and physiological aspects of cell growth.

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Bibby Sterilin's **microcarrier material** can be used for a variety of anchorage-dependent cell culture applications. Fibra-Cel carriers consist of 6-mm discs of non-woven polyester, each bound to a polypropylene screen that acts as a weighting device. The surfaces are treated to provide the optimum conditions for cell attachment and growth. Bibby Sterilin says the discs offer a dramatically enlarged surface area that is suitable for the demands of high-volume production of biological macromolecules from cell cultures. Fibra-Cel has been found to facilitate cell growth to densities in excess of 5×10^7 ml, and can be achieved with very low cell-seeding densities, down to as little as 1% of the final density, says the company.

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