WORLD PRECISION INSTRUMENTS

Reproducible Resistance of Endothelial Tissue

For TEER Measurement of Epithelial and Endothelial Cell Cultures

Features

- The new **EndOhm** chamber upper mount is made of polycarbonate and unaffected by alcohol
- The glass chamber is easier to clean and more scratch resistant than the prior versions. The **EndOhm** is not recommended for incubator use due to risk of the glass cracking.
- Adjustable apical electrode height
- Crystal clear glass chamber allows visualization of apical electrode positioning
- New insert holder with 120° tri-supports for three leg inserts
- Three sizes cover a range of well cup sizes from a variety of manufacturers
- Compatible with **EVOM3** and **EVOM™ Manual**

Benefits

- Stability and reproducibility superior to the **STX2 electrodes** to 1% tolerance
- Can be used with 6, 12 or 24 well plates with removable inserts
- Symmetrical electrode pattern disperses test current uniformly
- Tri-leg supports offer mechanical stability and the membrane is held parallel to the electrodes
- Simple test procedure to verify electrode performance

Applications

- TEER measurement for removable culture cup systems using **EVOM™ Manual** meters for endothelial and epithelial cell cultures

Using WPI's **EVOM™** TEER resistance meters, Endohm chambers provide reproducible resistance measurements of endothelial and epithelial monolayers in culture cups. Transfer cups from their culture wells to the Endohm chamber for measurement rather than using hand-held electrodes. The chamber and the cap each contain a pair of concentric electrodes: a voltage-sensing silver/silver chloride pellet in the center plus an annular current electrode. The height of the top electrode can be adjusted to fit cell culture cups of different manufacture.

More Precise Measurements with EndOhms

Endohm's symmetrically opposing circular disc electrodes, situated above and beneath the membrane, allow a more uniform current density to flow across the membrane than with electrodes. The background resistance of a blank insert is reduced from 150 Ω (when using WPI's hand-held electrodes) to less than 5 Ω. With Endohm's fixed electrode geometry, variation of readings on a given sample is reduced from 10-30 Ω with electrodes to 1-2 Ω. Compared with other resistance measurement methods, Endohm with EVOM™ Manual offers a much more convenient and economic solution to "leaky tissue" measurement. Because of the uniform density of the AC square wave current from **EVOM™ Manual**, errors owing to electrode polarization or membrane capacitance are largely negated. Endohm together with **EVOM™ Manual** offers the most accurate and economical endothelial ohmmeter now available. To date, cups from Corning, Millipore, Nunc, Greiner and BD Falcon have been tested. Endohm chambers may be sterilized with EtO, alcohol or a bactericide; not autoclavable.

NOTE: EndOhm chambers have Ag/AgCl electrodes. If you are measuring for extended periods of time, you should consider any potential cytotoxic issue from long term exposure to silver to your cells.

EVOM™ Manual High Throughput Screening System

Full list of inserts online.
www.wpiinc.com/endohm

ENDOHM-24 COMPATIBILITY CHART

EVM-EL-03-01-03

Corning	Millipore		Pore Size (µm)
3407		Polycarbonate	0.4
3801		Polycarbonate	0.4
3802		Polycarbonate	3.0
3412	PIHT30R48*	Polycarbonate	0.4
3414		Polycarbonate	3.0
	PITT03050	Polycarbonate	3.0
3428		Polycarbonate	8.0
3450		Polyester	0.4
3452		Polyester	3.0
3491		Collagen	0.4
3492		Collagen	3.0
	PICMORG50	Organotypic Insert	0.4
	PIHA03050	HA Insert	0.45
	PIHP03050	PCF Insert	0.4
	PICM03050	HA mixed cellulose esters	0.4
	PIHT30R48*	PET Insert	0.4
	PIRP30R48*	PET Insert	1.0
	PISP30R48*	PET Insert	3.0
	PIMP30R48*	PET Insert	5.0
	PIEP30R48*	PET Insert	8

ENDOHM-6 COMPATIBILITY CHART

EVM-EL-03-01-03

Corning	Millipore	Membrane Diameter (mm)	Growth Surface Area (cm²)	Membrane Pore Size (µm)
3470		6.5	0.33	0.4
3472	PITP01250	6.5	0.33	3
3413	PCF Insert	6.5	0.33	0.4
3415	PITP 01250 PCF Insert	6.5	0.33	3
3421		6.5	0.33	5
3422	PIEP 01250 PCF Insert	6.5	0.33	8
3495	PISP12R48* PIHT12R48* PET Insert	6.5	0.33	0.4
	PIHA012 50 (HA Insert)	6.5	0.33	0.45
	PICM012 50 (CM Insert)	6.5	0.33	0.4
3496	PISP12R48* PET Insert	6.5	0.33	3
	PIRP12R48* PET Insert	6.5	0.33	1
	PIMP12R48* PET Insert	6.5	0.33	5
	PIEP12R48* PET Insert	6.5	0.33	8
	PIXP01250 PCF Insert	6.5	0.33	12
	PITT01250			1.0
	PIHP 01250			3.0

* Inserts with tri-leg supports

ENDOHM-12 COMPATIBILITY CHART

EVM-EL-03-01-02

Corning	Millipore	Membrane Diameter (mm)	Growth Surface Area (cm²)	Membrane Pore Size (µm)
3401		12	1.12	0.4
3402	PITP01250	12	1.12	3.0
3403	PITT01250	12	1.12	3.0
3493		12	1.12	0.4
3494		12	1.12	3
3460	PIHT15R48* PET Insert	12	1.12	0.4
	PIRP15R48* PET Insert	12	1.12	1
3462	PISP15R48* PET Insert	12	1.12	3
	PIMP15R48* PET Insert	12	1.12	5
	PIEP30R48* PIEP15R48* PIEP15R48* PET Insert	12	1.12	8

Epithelial Volt/Ohm (TEER) Meter

Non-destructive measurement of epithelial monolayer confluence in 2D cell cultures

WPI's **EVOM™ Manual** is the gold standard for delivering stable and repeatable Trans Epithelial Electrical Resistance (TEER) measurements. The **EVOM™ Manual** qualitatively measures cell monolayer health and quantitatively measures cell confluence by determining an increase or a plateau in tissue resistance detected using our innovative EVOM™ technology. The **EVOM™ Manual** produces a low AC current that avoids electrode metal deposits and is specially designed for the non-destructive testing of epithelial monolayer confluence in cell cultures. Additionally, resistance readings are unaffected by membrane capacitance or membrane voltage. WPI's state of the art EVOM™ technology provides you with real time valuable feedback during experiment measurements.

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