Data Sheet

Agilent

Trusted Answers

Agilent xCELLigence RTCA S16 System

For label-free, real-time cellular analysis

The Agilent xCELLigence real-time cell analysis (RTCA) S16 system provides a unique and powerful means to monitor cells in real time without the potential artifacts generated by using labels. This noninvasive, label-free measurement technology allows detection of changes in adherence, morphology, and viability without needing to overexpress reporter and target proteins, or use radioactive chemicals. This provides highly physiologically relevant data throughout the experiment.

The Agilent xCELLigence E-Plate features an innovative biosensor configuration that covers 80% of each well bottom surface area. The real-time measurement of impedance across the biosensors provides sensitive, immediate detection of the cellular condition and response. This enables a wide array of potential applications including (but not limited to):

- Cell quality and proliferation
- Compound-mediated cytotoxicity
- Cell-mediated cytotoxicity
- Cell adhesion and spreading
- Functional monitoring of receptor tyrosine kinase and GPCR signaling
- Cell-mediated cytolysis
- Barrier function
- Viral quantification
- Viral CPE
- Neutralizing antibodies

Agilent E-Plate 16	
Dimensions	4.0 cm × 8.7 cm × 1.96 cm (W × D × H, with cover)
Well Spacing	9 mm center-to-center as per ANSI/SBS 4-2004 standard
Well Volume	270 ±10 µL
Well Bottom Diameter	5.0 ±0.075 mm
Electrical Interface	Compatible with RTCA DP analyzer
Sensor Impedance	17 ±5 Ω at 10 kHz, when measured with a 1× PBS solution
Materials	Polystyrene well plate, glass sensor substrate, UV irradiated
Environment	Temperature: 15 to 40 °C Relative humidity: 98% maximum noncondensing

Agilent E-Plate VIEW 16	
All E-Plate 16 Specifications Apply	
Viewing Window	Four center electrodes removed to aid in microscopy (~400 µm width)

Agilent E-Plate Insert 16	
Dimensions	7.02 cm × 1.7 cm ×1.11 cm (W × D × H)
Well Format	16-Well (8 × 2) format as per ANSI/SBS 4-2004 standard for 96-well microplates
Well Volume	95 µL ±10%
Membrane Material	PET
Membrane Area	5.4 mm^2 ±12%
Pore Size	0.4 ±0.1 µm
Pore Density	8×10^7 to 1.5×10^8 pores/cm^2
UV Irradiated	Yes
Environment	Temperature: 15 to 40 °C Relative humidity: 98% maximum noncondensing

RTCA S16 Analyzer	
Electrical Input	+5 VDC, 1 W maximum
Electronic Switch Resistance	2 to 5 Ω
Electronic Interface	Handling one E-Plate 16 device
Communication	USB 2.0
Environment	Temperature: +20 to +40 °C Relative humidity: 98% maximum noncondensing
Output Test Signal	22 mV rms ±(2% +5 mVrms) at 10, 25, and 50 kHz
Impedance Measure Accuracy	±(1% + 1.5 Ω)
Impedance Measurement Repeatability	0.8%
Impedance Dynamic Range	10 to 5,000 Ω
Status Indicators	Analyzer status

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This information is subject to change without notice.

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