

RTCA

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

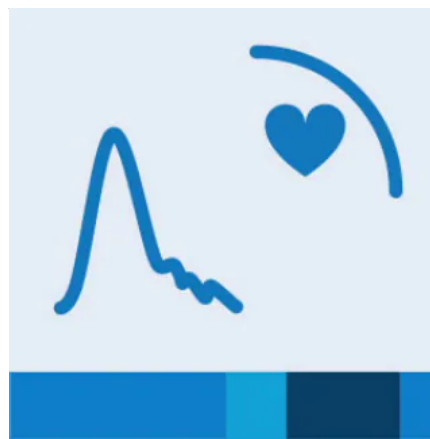
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RTCA Cardio Software RUO

The user-friendly RTCA Cardio Software provides outstanding instrument control for flexible experiment setups, data acquisition, and data analysis.

The software works under two modes: Real-Time mode and Offline data analysis mode. The Basic license enables the data analysis function for data generated by Cardio system. The Advance License enables the data analysis function for data generated by Cardio and ePacer system.

For Research Use Only. Not for use in diagnostic procedures.



Features

- Real-time monitoring of the cardiomyocyte contractile activities and general health
- Analyzing cardiomyocyte beating rate, beating amplitude and beating irregularity
- Providing quantitative data to assess compound cardio liability

How It Works

Step 1: Record Plate Layout

Using an intuitive graphical interface, the contents and conditions of each well in the electronic microplate (E-Plate) are recorded (Figure 1). Information fields for the wells include cell type, cell number, drug identity, drug concentration, etc. Table autofilling functions, like excel or other spreadsheet programs, are available. These functions enable rapid data entry and automatic establishment of drug concentration gradients, cell number titrations, etc. Even when multiple cell types and assay conditions are being examined, it takes just minutes to record the information for every well in a plate.

Figure 1. Zoomed in screenshot of table for recording the contents and /conditions of each well in an E-Plate.

Well ID	1	2	3	4	5	6
A	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)
B	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)
C	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)
D	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)
E	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)
F	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)	Cardiomyocyte (C2C12) (100000)

Step 2: Define data acquisition parameters and run experiment

Using a second table, the details of data acquisition are defined.

Figure 2. Steps are preprogrammed on the schedule page to control how the data will be measured and collected from the cells. The data includes the recording interval and the time duration of continuous data recording.

Press run and watch as impedance data is acquired in real time for every well in the plate. Even as data is being acquired, it can be viewed and graphically manipulated.

Step	Action	Step	Test Mode	Sweep Duration	Speed	Step Status	Sweep Status	Sweeps	Interval	Unit	Total Time	Comments
1	Start	Step_1	CI	10	12.8 mm/s	0.0	0	1	1	hour	360000	When background
2	Start	Step_2	CI	10	12.8 mm/s	0.0	0	1	1	hour	360000	Let culture
3	Start	Step_3	CI	20	12.8 mm/s	0.0	0	7	5	minute	2000000	Baseline
4	Start	Step_4	CI	20	12.8 mm/s	0.0	0	10	5	minute	2000000	Post drug (10 min)
5	Start	Step_5	CI	20	12.8 mm/s	0.0	0	100	1	hour	3600000	Post drug (long term)

Step 3: Data Plotting and Analysis

Using an intuitive graphical interface, the real-time impedance data for all the wells, or a subset of wells, from the E-Plate can be plotted (Figure A). Data from multiple wells can be averaged, and the coefficient of variation automatically calculated and plotted. The viewing window for the X- and Y-axis can be readily adjusted, and data traces can be normalized to a specific time point (for example, immediately before drug addition. By zooming in on a short time range, it is possible to view the rhythmic fluctuation in impedance resulting from cardiomyocyte beating (Figure B). Built-in data analysis tools enable the real-time impedance traces to be interrogated for drug-induced effects on cardiomyocyte beating activity. A total of 13 different parameters, including beating rate and amplitude, can be evaluated (Figure C).



RTCA CardioECR Software RUO

The user-friendly RTCA Cardio Software provides outstanding instrument control for flexible experiment setups, data acquisition, and data analysis.

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Record plate layout

Using an intuitive graphical interface, the contents/conditions of each well in the electronic microplate (E-Plate) are recorded (Figure 1). Information fields for the wells include cell type, cell number, drug identity, drug concentration, etc. Table autofilling functions, similar to excel or other spreadsheet programs, are available. These functions enable rapid data entry and automatic establishment of drug concentration gradients, cell number titrations, etc. Even when multiple cell types and assay conditions are being examined, it takes just minutes to record the information for every well in a plate.

Figure 1. Zoomed in screenshot of table for recording the contents/conditions of each well in an E-Plate CardioECR 48

	1	2
A	Cardiomyocyte 5000 DMSO 1.00e-03pgm	Cardiomyocyte 5000 DMSO 1.00e-03pgm
B	Cardiomyocyte 5000 Lidocaine 0.14nM	Cardiomyocyte 5000 Lidocaine 0.14nM
C	Cardiomyocyte 5000 Lidocaine 0.14nM	Cardiomyocyte 5000 Lidocaine 0.14nM

RTCA ePacer Software RUO

The xCELLigence RTCA ePacer Software enables an easy and effective way to produce functionally mature hiPSC cardiomyocyte using precise and electrical pacing conditions over different time durations. The simple pacing protocol improves the functionality of hiPSC Cardiomyocytes and their response to inotropic compounds

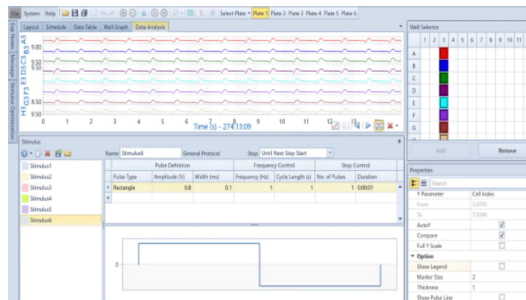
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Features

- Flexible integration into your existing assay workflow.
- Convenient view area on the E-Plate Cardio View 96 allows for compatibility with other optical assays.
- Extensive application functionality for cardiomyocyte workflows
- Obtain more physiological relevant models with functionally mature hiPSC cardiomyocytes
- Precise control of beating rate and pacing conditions over different time durations produces functional and mature cardiomyocytes

How It Works



Tunable Pacing Function

Stimulus settings, such as pulse type, pulse intensity, pulse length, and stimulation duration can be easily selected and defined by the user.

RTCA Software

RTCA eSight Software RUO

The RTCA eSight Software is used for operating the RTCA eSight. It provides capability for flexible experimental setups, real time imaging acquisition, and powerful data analysis functions for microplates, E-Plate View 96, regular plastic labware and imaging slides.

The software works in two modes: Real-Time and Offline mode.

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Part Number	Description
310100310	RTCA eSight Software License (Single)
310100330	RTCA eSight Software License (Site)

Features

- Single Setup For Dual Measurements
- Multi-modal Data Acquisition
- Information Rich & powerful data analysis functions

RTCA Software

RTCA Software Lite RUO

The xCELLigence RTCA Software Lite is an integrated software package for running and analyzing real time cell analysis data from xCELLigence RTCA S16 and iCELLigence instruments.

The RTCA software Lite offers specialized algorithms such as slope, cell index doubling time, % of control, and EC50/ IC50 calculations based on maximum cell index, minimum cell index, area under the curve, and time dependent cell index values.

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Part Number	Description
310100210	RTCA software lite single license
310100220	RTCA software lite site license

Features

- Simple experimental set up
- Easily visualize well content
- Generate publication ready data
- Easy experimental analysis
- Very reliable cytotoxicity data

RTCA Software Pro RUO

The xCELLigence RTCA Software Pro is an integrated software package for running and analyzing real time cell analysis data from xCELLigence RTCA DP, SP, and MP instruments. Two modules are available: RTCA Basic and Immunotherapy.

The basic module offers algorithms such as slope, cell index doubling time, % of control, and EC50/ IC50 calculations. The immunotherapy module is designed to measure cytolysis of target tumor cells by effector cells and other molecules, includes experimental templates for immunotherapy studies, and automatically calculates effector to target cell (E:T) ratios, % cytolysis.

The compliance support mode is an additional module for either RTCA basic and RTCA IMT. When the compliance support mode is activated, RTCA Software Pro supports users in achieving requirements of FDA 21 CFR Part 11 to ensure the authenticity and integrity of electronic data.

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Part Number	Description
S2807-90004	RTCA software compliance single license
S2807-90005	RTCA software compliance site license (20 seats)
310100200	RTCA software basic site license
310100230	RTCA software IMT single license for MP
310100240	RTCA software IMT site license for MP
310100270	RTCA software IMT single license for DP
310100280	RTCA software IMT site license for DP
310100290	RTCA software IMT single license for SP
310100300	RTCA software IMT site license for SP
5454433001	RTCA software basic single license

Features

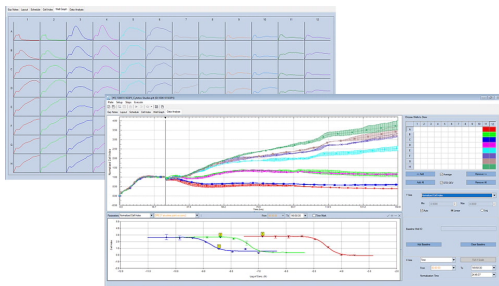
- Easy-to-use and intuitive xCELLigence RTCA Software Pro analyzes real-time data, generates diverse plot types and automatically calculates dose response curves and parameters such as % cytolysis, IC50 or KT50
- Quickly evaluate efficacy of different treatments with automated normalization and compensation features
- Calculate slope, Cell Index doubling time, % of control, and EC50/ IC50 with RTCA Pro Basic.
- Evaluate the potency of immune cells (CAR-T, Natural Killer, Tumor-infiltrating lymphocytes), checkpoint inhibitors, antibody dependent cell-mediated cytotoxicity (ADCC) with RTCA Software Pro IMT (Immunotherapy)
- Support for FDA 21 CFR Part 11 compliance to ensure the authenticity and integrity of electronic data

How It Works



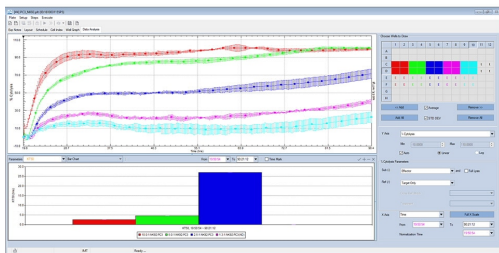
Simple Assay Setup

RTCA Software Pro allows users to conveniently set up and analyze experiments. The plate window handles all functionalities relevant to a single E-Plate. Simply enter the cell name, number, treatment name, and concentration for each well using the intuitive software interface. The color-coded plate map provides a visual reference to the conditions being tested. Easily load a template file to create a new experiment, save a current experiment template, and export experiment details as Excel, text, or PDF files.



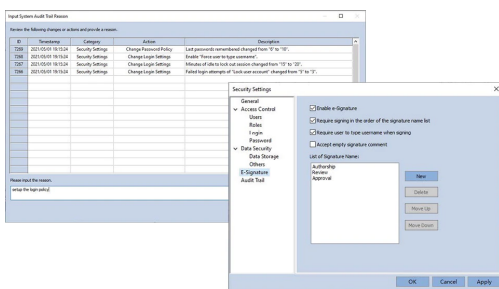
Streamlined Real-Time Data Acquisition and Analysis

With RTCA Software Pro, one interface is used for both real-time data acquisition and analysis. To obtain early insights, users can visualize and analyze acquired data while an experiment is ongoing. The Analysis Method feature allows users to save time by loading saved analysis parameters to the Cell Index, Well Graph, and Data Analysis pages. Select and simultaneously display relevant data from specific wells, generate dose response curves, calculate IC50/EC50 values, and create customized reports and publication quality figures.



Powerful Immunotherapy Analysis Tools

The RTCA Software Pro Immunotherapy (IMT) module is designed to analyze cytotoxic activity from the xCELLigence RTCA instruments, streamlining experimental design and analysis for immunotherapy studies. Users can consistently calculate real-time effector cytotoxicity at low, physiologically relevant E:T ratios, calculate killing time (KT50), and measure treatment efficacy against various controls including target cells alone, effector cells alone, target/mock effectors, and full lysis controls.



Support for FDA 21 CFR Part 11 Compliance

xCELLigence RTCA Software Pro supports users and their organizations in achieving the requirements of each section of 21 CFR Part 11 and the related sections of EU Annex 11. Ensure the authenticity and integrity of your electronic data acquisition and analysis when using Agilent xCELLigence RTCA DP, SP, and MP systems with the xCELLigence RTCA Software Pro compliance license.

RTCA Software Pro Features	Basic License	Immunotherapy License	Compliance License (Additional Module)
Doubling time calculation	✓	✓	
Slope calculation	✓	✓	
Time dependent IC50 calculation	✓	✓	
Automated bar chart generation	✓	✓	
Dose response curve	✓	✓	
Percentage of control curve	✓	✓	
Immunotherapy experiment template (target, effector, mock effector cells)		✓	
Killing time KT50 calculation		✓	
% cytotoxicity calculation from target, target/effectors, target/mock effectors		✓	
Normalized Cell Index curve with effector subtraction		✓	
Support users in achieving requirements of FDA 21 CFR Part 11			✓
Security of electronic records			✓
Attribution of work with system and file audit trail			✓
Electronic signatures			✓

RTCA Software License Selection Guide

xCELLigence RTCA Software Pro is an integrated software package for running and analyzing real-time cell analysis data from xCELLigence RTCA DP, SP, and MP instruments. The RTCA Basic license offers algorithms such as slope, cell index doubling time, % of control, and EC50/IC50 calculations. The RTCA IMT license includes additional functions to measure cytotoxicity of target tumor cells by effector cells and other molecules. The compliance license can be added to either RTCA basic and RTCA IMT, which supports users in achieving requirements of FDA 21 CFR Part 11 to ensure the authenticity and integrity of electronic data.

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