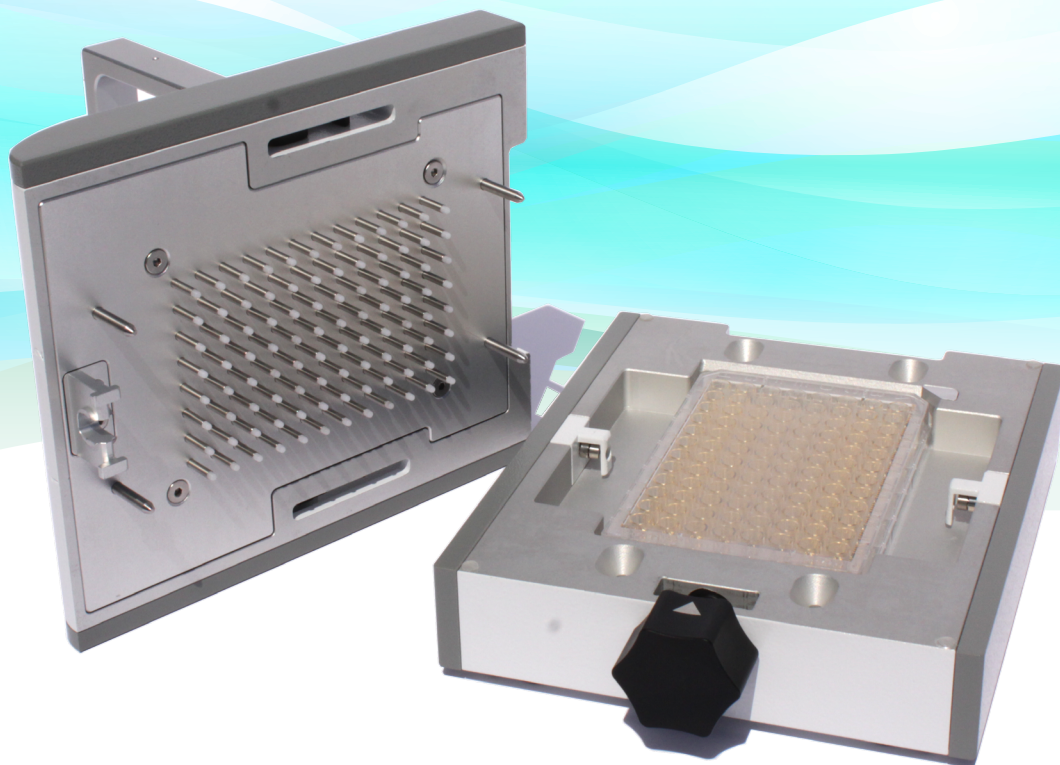


# High Throughput Wound Healing Assays



Simultaneously produce 96 identical scratch wounds, then monitor cell migration/wound healing in real-time

# Cell Migration/Wound Healing Kinetics in a Highly Reproducible 96-Well Format

Combining the xCELLigence® Real-Time Cell Analysis instruments with the new AccuWound® 96 scratch tool has completely revolutionized the wound healing assay:

**GENERATE 96 IDENTICAL SCRATCH WOUNDS IN SECONDS:** With a simple turn of a knob, pins on the AccuWound 96 tool produce uniform scratch wounds in every well of a microtiter plate.

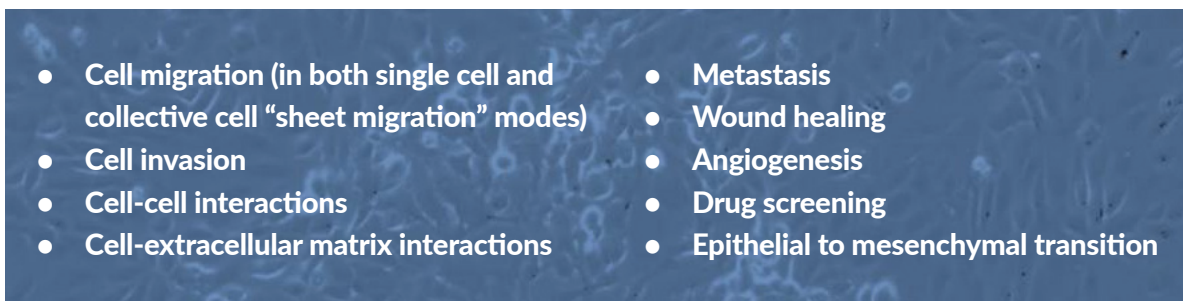
**ASTONISHINGLY SIMPLE DATA ACQUISITION AND KINETIC ANALYSIS:** Once scratch wounds have been generated, the xCELLigence instrument monitors cell migration/wound healing in real-time:

- Read an entire 96-well plate in 15 seconds
- Run up to 6 plates simultaneously yet independently
- Track cell migration/wound healing continuously, providing a true kinetic analysis and eliminating the guesswork that is associated with endpoint data

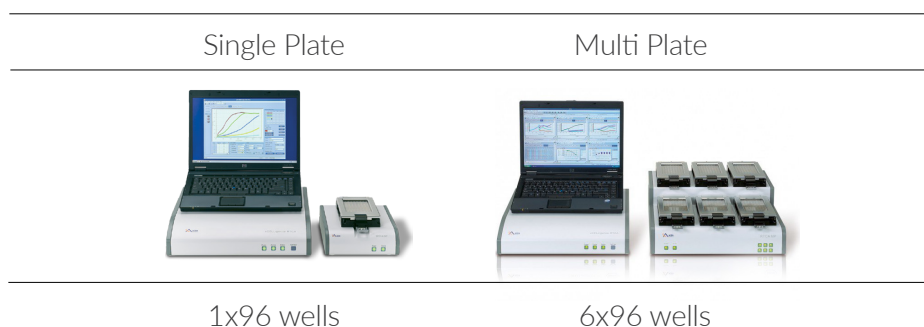
**EXCEPTIONAL REPRODUCIBILITY:** The precision of the AccuWound 96 scratching tool, combined with the objective and continuous monitoring of the xCELLigence instrument, yield data of unparalleled quality. Coefficients of variation are typically 4% (vs. 20% for traditional scratch assays).

## Broad Applications:

The simplified workflow, high reproducibility, and quantitative kinetics of the AccuWound 96 + xCELLigence assay system enable increased productivity for diverse research interests, including but not limited to:



## xCELLigence Instruments Compatible with the AccuWound 96 Scratch Tool:



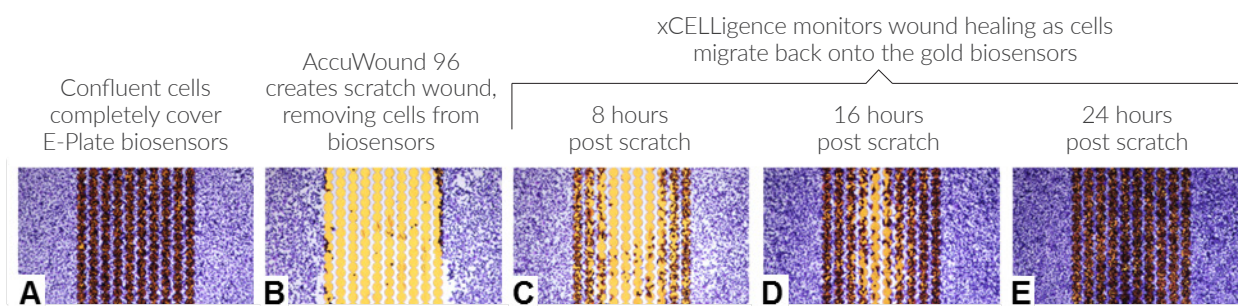
## Assay Overview:

The xCELLigence Real-Time Cell Analysis (RTCA) instruments utilize patented microtiter plates (E-Plates®) which contain gold biosensors embedded in the bottom of each well. These biosensors continuously and non-invasively monitor the total surface area that is covered by cells, enabling the kinetics of wound closure to be determined. The simple workflow is as follows:

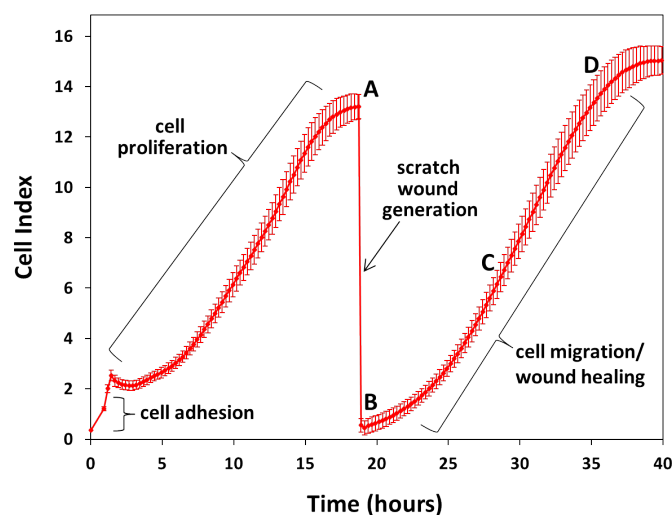
**Step 1 – Cell Seeding and Growth:** Adherent cells are first seeded in E-Plate wells, and the E-Plate is placed inside the xCELLigence instrument. The xCELLigence biosensor signal, also known as “Cell Index”, increases as cells attach and proliferate, and then plateaus as cells approach 100% confluence (below photo A and data plot).

**Step 2 – Scratch Wound Production:** The E-Plate is then removed from the xCELLigence instrument and placed inside the AccuWound 96 scratch tool (shown on the front cover of this brochure). Turning a knob slides a spring-loaded Teflon™ pin across the bottom of each well in the E-Plate. This removes cells from the biosensors (photo B), which xCELLigence subsequently detects as a drop in the Cell Index signal (below data plot).

**Step 3 – Monitoring Cell Migration/Wound Healing:** As cells migrate to close the wound, they progressively re-coat the gold biosensors (photos C-E), causing the Cell Index signal to increase (below data plot). The kinetics of this process are easily compared for different conditions (± drug, gene knockdown, etc.)



Though not necessary for the xCELLigence wound healing assay, cells were stained and visualized (above photos A-E) in order to demonstrate the correlation between biosensor coverage and the magnitude of the Cell Index signal (data plot to the right). Key features of the Cell Index plot, including the specific time points that correspond to the above photos A-D, are denoted.



## Learn more:

Download xCELLigence RTCA application notes, search xCELLigence publications, view webinars, and see example data at: [www.aceabio.com/applications/scratchassay](http://www.aceabio.com/applications/scratchassay)



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