

Agilent Cell Assay Quick Start Guide

Agilent Cell Kit (reorder number 5067-1519)

Cell Assay Chips

25 Chips

Cell Fluorescence Reagents

- (green) Cell Fluorescence Buffer
- (yellow) Focusing Dye Solution
- (white) Chip Priming Solution
- (purple, 2 vials) 2x Cell Buffer

Cell Kit Specifications

Analysis run time	30 minutes
Number of samples	6
Sample volume	10 µl
Assay kit stability	4 months at 4 °C

Assay Kits

The Cell Fluorescence kit allows the analysis of pre-stained cells and on-chip staining. It can be used for example in combination with the following applications:

- Apoptosis
- Antibody Staining
- GFP Transfection Efficiency
- Gene Silencing
- siRNA Viability
- On-chip staining

Orderable Spare Parts, Accessories and Cell kits

- Pressure Adapter Kit (reorder number 5065-4478)
- Cell Test Chip Kit (reorder number G2938-68200)
- Agilent Cell Kit (reorder number 5067-1519)
- Agilent Cell Checkout Kit (reorder number 5065-1520)

Additional material required (not supplied with the kit)

- Pipettes (10 µl, 100 µl, and 1000 µl) with compatible tips
- For cell preparations: 15 ml Falcon tubes, 1.5 ml or 0.5 ml microcentrifuge tubes
- Microcentrifuge
- Vortex mixer
- Cell counting chamber
- Application (e.g. apoptosis) specific reagents and fluorescent dyes



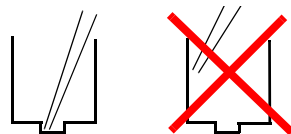
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Sample Preparation

- Cell Samples: For accurate results, the concentration of the sample must be at 2.0 million cells/ml. If concentration of your particular sample is too high, resuspend cells in an appropriate volume of cell buffer. On-chip staining requires 3.0 million cells/ml.

Essential Measurement Practices

- Handle and store all reagents according to the instructions on the label of the individual box .
- Avoid sources of dust or other contaminants. Foreign matter in reagents and samples or in the wells of the chip will interfere with assay results.
- Keep all reagent and reagent mixes refrigerated at 4 °C when not in use.
- Allow all reagents and samples to equilibrate to room temperature for 30 minutes before use.
- Protect dye and dye mixtures from light. Remove light covers only when pipetting. The dye decomposes when exposed to light and this reduces the signal intensity.
- Always insert the pipette tip to the bottom of the well when dispensing the liquid. Placing the pipette at the edge of the well may lead to poor results.
- For chip preparation, use inverse pipetting.



NOTE

Inverse pipetting:

When filling the pipette tip, push slightly over the first resistance. Empty the pipette tip only to the first resistance. This procedure avoids the introduction of bubbles and ensures pipetting the right volume. Do not touch the Agilent 2100 bioanalyzer during analysis and never place it on a vibrating surface.

- Never leave any wells empty or the pressure cartridge may become clogged. Pipette 10 µl of cell buffer or sample replicate in any empty sample well.
- For optimal results, samples should not exceed cell concentrations of 2.0 million cells per ml. On-chip staining requires 3.0 million cells/ml.
- Prepared chips must be used within 5 minutes unless on-chip staining protocol is followed.
- Do not touch the Agilent 2100 bioanalyzer during a run and never place it on a vibrating surface.
- Never touch the instrument lens. Refer to the *2100 Expert Maintenance & Troubleshooting Guide* for lens maintenance.
- Handle cells with minimum shear forces, e.g. choose pipet tips with wide holes.

Cell Assay kit guide

Find the full printable Cell Assay kit guide within the *2100 Expert help menu* in the list of related documents.

Application notes

For hints on staining optimization, handling or experimental setup check for detailed Application Notes at www.agilent.com/chem/labonachip.

Agilent Cell Assay Protocol - Edition January 2006

WARNING



Handling reagents

The handling of reagents and chemicals might hold health risks.

⇒ Wear hand and eye protection and follow good laboratory practices when preparing and handling reagents and samples.

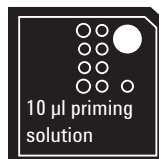
⇒ All reagents should be handled with appropriate care usual when dealing with chemicals. For further chemical and biological safety information please refer to the *Agilent Technologies 2100 Bioanalyzer Installation and Safety Manual*.

Preparing Cells

- 1 Treat cell samples and pellet them according to the application specific protocol.
- 2 Carefully remove supernatant with a pipette tip.
- 3 Add an appropriate volume of cell buffer (● green) to reach a final concentration of 2.0 million cells/ml. On-chip staining requires 3.0 million cells/ml.
- 4 Resuspend cell pellet with applying minimum shear forces.
Check visually if there are any cell clumps or agglomerates left. If yes, repeat this step.
- 5 If cell clumps or agglomerates cannot be removed by vortexing, use cell strainers (40 µm) to filter the cell suspension before loading on the chip.
- 6 Immediately load cells onto the chip after loading chip priming solution, focusing dye solution and cell buffer.

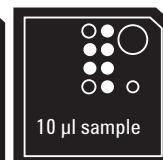
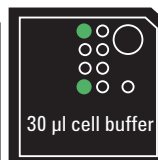
Loading the Chip Priming Solution

- 1 Pipette 10 µl of priming solution (white) in the priming well (PS).
- 2 Wait for 60 seconds.



Loading the Focusing Dye Solution, Cell Buffer and Samples

- 1 Pipette 10 µl of focusing dye solution (● yellow) into the focusing well (FD).
- 2 Pipette 30 µl of cell buffer (● green) into each of the 2 buffer wells (CB).
- 3 Pipette 10 µl of sample in each of the 6 sample wells*.
- 4 Add 10 µl of cell buffer (● green) to each unused well.
- 5 Place prepared chip in the Agilent 2100 bioanalyzer and start the run within 5 minutes*.



*) On-chip staining requires addition of stains and a special incubation - for details refer to respective application notes.

Technical Support In the U.S./Canada: 1-800-227-9770 (toll free); bioanalyzer_americas@agilent.com. In Europe: bioanalyzer_europe@agilent.com. In Japan: 0120 477 111; lab_chip@agilent.com. In Asia Pacific: (+81) 422 56 93 92; bioanalyzer_ap@agilent.com

Further Information Visit Agilent Technologies' unique Lab-on-a-Chip web site offering useful information, support and current developments about the products and technology: <http://www.agilent.com/chem/labonachip>.

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