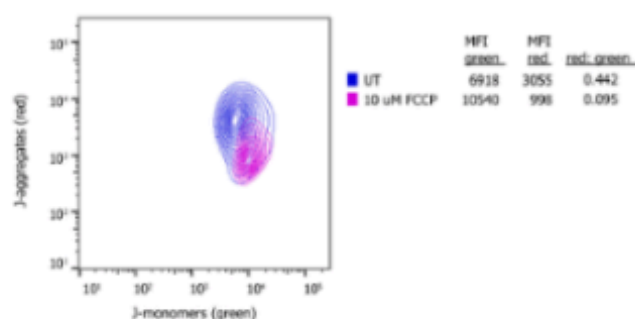


New Assay Kit for Researching Apoptosis

JC-1 Mitochondrial Membrane Potential Flow Cytometry Assay Kit

Cayman's JC-1 Mitochondrial Membrane Potential Flow Cytometry Assay Kit can be used to study mitochondrial behavior in a variety of conditions, including apoptosis. Changes in $\Delta\psi_M$, reflected by aggregation level of JC-1, can be determined as a ratio of red to green mean fluorescence intensities using flow cytometry. Flow cytometry is an ideal way to assess the JC-1 aggregation at the single-cell level, and provides the added benefit of potential to multiplex other readouts from the same cells. This kit additionally contains FCCP for treatment of cells as a compensation control. The reagents in this kit are sufficient for staining up to 500 samples for JC-1.



THP-1 cells respond to FCCP with a shift in JC-1 spectrum. THP-1 cells were incubated in PBS with or without 10 μ M FCCP and stained as described in the kit booklet. Events were collected by a MACSQuant flow cytometer (Miltenyi) and digitally compensated and analyzed using FlowJo (Treestar). Live cells (gated by FSC/SSC) are shown overlaid from representative samples along with corresponding geometric mean fluorescence intensities (MFI). Addition of FCCP to cells induces a shift from red to green fluorescence, which is most evident in the ratio of red to green MFI.

How Did My Cells Die?

Choosing the Right Apoptosis Assay

Understanding the death of a cell holds immense promise in the treatment of disease. Apoptosis, a genetically encoded suicide program to remove unnecessary or potentially harmful cells, is a vital component of proper embryonic development, normal cell senescence, immune reactions, and defense against toxicity. Aberrations in its functioning can lead to neurodegenerative diseases or autoimmune disorders and is one of Hanahan and Weinberg's "Hallmarks of Cancer."

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<https://www.caymanchem.com/news/choosing-the-right-assay>

New Proteins for Researching Apoptosis

Hsp40 (human recombinant)

The chaperone Hsp40 (homolog of the bacterial DnaJ chaperone) functions to regulate the ATP-dependent binding of Hsp70 to target proteins. There are 44 members of the Hsp40 family in humans, and each individual Hsp40 has a unique polypeptide-binding domain which presents the target to Hsp70. Each unique Hsp70-Hsp40 pair facilitates protein folding of targets at specific cellular locations. The Hsp40 protein stabilizes the Hsp40-Hsp70 complex by regulation of ATP hydrolysis, and it has been shown that Hsp40 has a similar role with Hsp70.

