

Apoptosis (anti-PS) Biocytometry Kit



Assessment of Early Stage Apoptosis

The Apoptosis (anti-PS) Biocytometry Kit offers a reliable method for quantification of early-stage apoptotic cells with exposure of phosphatidylserine (PS) on the outer leaflet of the cell membrane. The bioparticle system utilizes the well-characterized Annexin V moiety to identify target cells. Necrotic cells are selectively bypassed, enabling effective separation of apoptotic response to tested compounds from other events causing secondary necrosis, such as poor handling, pH imbalance, or temperature fluctuations.

Sample types

compatible with many sample types:

- PBMCs
- cryopreserved samples
- primary cell cultures
- organoids
- immortalized cell lines

Instrument requirements

requires only standard equipment:

- fixed-rotor centrifuge
- multimode plate reader (>1000 amol)
- vortex
- 30°C incubator
- thermoshaker

Workflow

1. add bioparticles & mix: 15 min
2. incubate: 5 hr, walkaway
3. add substrate & measure: 1 min

Performance Assessment

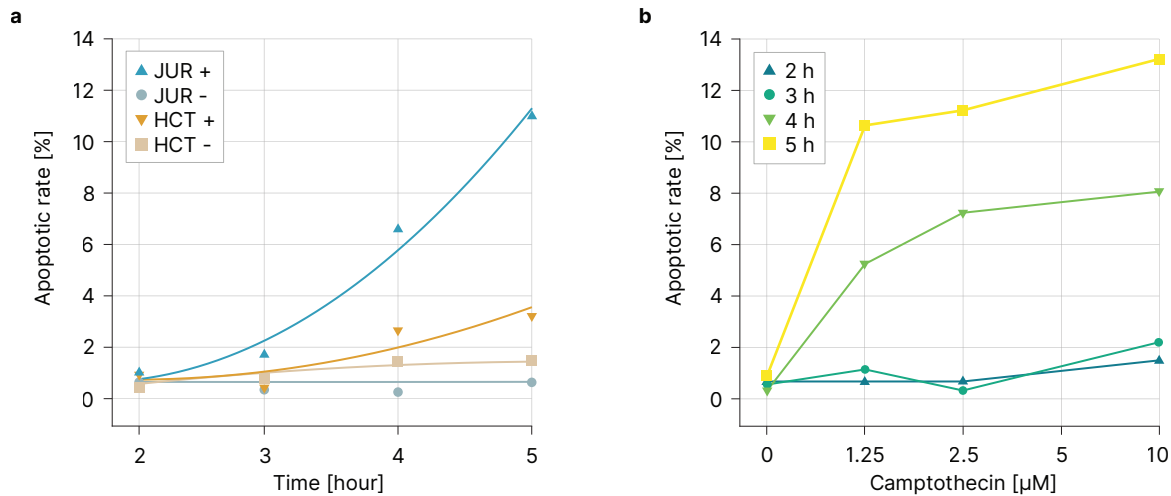


Figure 1. Apoptosis quantification in Jurkat and HaCaT cells following treatment with apoptogenic agents.

(a) Time-course analysis using HaCaT and Jurkat cell monocoltures. Cells were seeded at a density of 2,500 cells/well in RPMI and treated with 0.25 mM DTT to induce apoptosis. Incubation proceeded at 37°C in a 5% CO₂ atmosphere for intervals of 2, 3, 4, or 5 hours. Apoptosis was quantified using Apoptosis (anti-PS) Biocytometry Kit following established preparation protocol. Signals were normalized to the number of cells, established prior to the biocytometric analysis. Analysis reveals differential sensitivity of HaCaT and Jurkat cell lines to DTT treatment. (b) Concentration-response curves for Jurkat cell line and camptothecin. Cells were seeded at a density of 2,500 cells/well in RPMI supplemented with 10% FBS and treated with varying concentrations of camptothecin (0 - 10 μ M). Incubation proceeded at 37°C in a 5% CO₂ atmosphere for intervals of 2, 3, 4, or 5 hours. Apoptosis was quantified using Apoptosis (anti-PS) Biocytometry Kit following established preparation protocol. Signals were normalized to the number of cells, established prior to the biocytometric analysis. Notable onset of apoptosis is observed at the 3-hour mark.

Technical Specifications¹

Sample

The Apoptosis (anti-PS) kit is designed to process samples of suspended cells and cell clusters. All intact cells in the sample will be processed.

sample volume	100 μ l
cells (total)	10,000
reactions per kit	10

Target cells

The Apoptosis (anti-PS) kit identifies target cells that are defined by presence of phosphatidylserine on the outer leaflet of the membrane. Such phenotype is a common predictor of early stage of apoptosis.

target antigen	phosphatidylserine
target phenotype	early-stage apoptosis
necrotic cells	not quantified

¹ all values provided are approximate and for reference only. Specifications for samples and target cells may differ based on the application. For comprehensive guidelines on assays, workflows, and updates on new product releases, please visit our website at www.samplinghuman.com. For inquiries regarding custom solutions, high-throughput workflows, or licensing options, feel free to reach out to us at info@samplinghuman.com.