Apoptosis and Necrosis Quantification Kit

A convenient assay for staining apoptotic cells with green fluorescence and necrotic cells with red fluorescence for quantitation within the same cell population by flow cytometry or fluorescence microscopy.



Product attributes

Apoptosis/viability marker	Phosphatidylserine/Annexin V, Dead cell stain, Apoptosis/necrosis assay
For live or fixed cells	For live/intact cells
Detection method/readout	Fluorescence microscopy, Flow cytometry
Assay type/options	Endpoint assay
Colors	Green/Red
Product origin	Annexin V (human); recombinant, produced in E. coli
Storage Conditions	Store at 2 to 8 °C, Do not freeze, Protect from light

Product Description

The Apoptosis and Necrosis Quantitation Kit provides a convenient assay for quantifying apoptotic (green) and necrotic (red) cells within the same cell population by flow cytometry or fluorescence microscopy.

Apoptosis and necrosis are two major processes by which cells die. Apoptosis is an active, genetically regulated disassembly of the cell from within. During apoptosis, phosphatidylserine (PS) is translocated from the inner to the outer leaflet of the plasma membrane for phagocytic cell recognition. The human anticoagulant Annexin V is a 35 kDa, Ca^{2+}-dependent phospholipid-binding protein with high affinity for PS. Annexin V labeled with fluorescein (FITC) stains apoptotic cells green by binding to PS exposed on the cell surface.

Necrosis normally results from severe cellular insult. Both internal organelle and plasma membrane integrity are lost, resulting in the release of cellular contents into the surrounding environment. Ethidium Homodimer III (EthD-III) is a highly positively charged nucleic acid probe, which is impermeant to live cells, but stains cells with compromised membrane integrity with red fluorescence. EthD-III is a superior alternative to Propidium Iodide (PI) or Ethidium Homodimer I because of its significantly higher affinity for DNA and higher fluorescence quantum yield. The Apoptosis & Necrosis Quantitation Kit provides a convenient assay for quantifying apoptotic (green) and necrotic (red) cells within the same cell population by flow cytometry or fluorescence microscopy.

Also see the Apoptosis and Necrosis Quantification Kit Plus and Apoptotic, Necrotic, and Healthy Cells Quantification Kit Plus, which feature Annexin V conjugated to Biotium's superior green fluorescent dye CF®488A, which is brighter and more photostable than FITC.

See our full selection of Cell Viability & Apoptosis Assays and Viability & Apoptosis Assays for Flow Cytometry.