

Apoptotic, Necrotic and Healthy Cells Quantitation Kit Plus

A convenient assay for quantifying apoptotic (green), necrotic (red), and total (blue) cells within the same cell population by flow cytometry or fluorescence microscopy.



Product attributes

Apoptosis/viability marker	Phosphatidylserine/Annexin V, Dead cell stain, All cell stain, Apoptosis/necrosis assay
For live or fixed cells	For live/intact cells
Detection method/readout	Fluorescence microscopy
Assay type/options	Endpoint assay
Colors	Blue/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 Apoptotic, Necrotic & Healthy Cells Quantitation Kit Plus provides a convenient assay for quantifying apoptotic (green), necrotic (red), and total (blue) cells within the same cell population by 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 CF®488A stains apoptotic cells green by binding to PS exposed on the cell surface. CF®488A is spectrally similar to fluorescein (FITC), with much brighter and more photostable fluorescence.

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 kit also includes the cell membrane-permeant DNA dye Hoechst 33342 to stain all cell nuclei blue.

CF dye technology is covered by US and international patents.

References

1. Cell Death Dis (2012) 3, e414. <https://doi.org/10.1038/cddis.2012.154>
2. JBC (2019) 294, 11259-11275. doi: [10.1074/jbc.RA119.007851](https://doi.org/10.1074/jbc.RA119.007851)

This datasheet was generated on January 6, 2026 at 02:01:30 AM. Visit product page to check for updated information before use.
Product link: <https://biotium.com/product/apoptotic-necrotic-healthy-cells-quantitation-kit-plus/>