

Product datasheet

Annexin V-iFluor 555 Apoptosis Detection Kit ab219917

1 Image

Overview

<b>Product name</b>	Annexin V-iFluor 555 Apoptosis Detection Kit
<b>Detection method</b>	Fluorescent
<b>Sample type</b>	Adherent cells, Suspension cells
<b>Assay type</b>	Quantitative
<b>Species reactivity</b>	<b>Reacts with:</b> Other species, Mammals
<b>Product overview</b>	Annexin V-iFluor 555 Apoptosis Detection Kit (ab219917) contains Annexin V labeled with our proprietary orange fluorescent dye iFluor 555, which allows the identification and quantification of apoptotic cells on a single-cell basis by flow cytometry or fluorescence microscopy.

The iFluor 555 dye (Ex/Em = 556/574 nm) has spectral properties almost identical to those of Cy3<sup>®</sup> or Alexa Fluor<sup>®</sup> 555, making it convenient to be used for common fluorescence instruments equipped with the light sources and filters for Cy3<sup>®</sup> or Alexa Fluor<sup>®</sup> 555.

Notes

Apoptosis is a regulated process of cell death that occurs during embryonic development as well as maintenance of tissue homeostasis. Inappropriately regulated apoptosis is implicated in different disease states, such as neurodegeneration disease and cancer. The apoptosis program is characterized by morphologic features, including loss of plasma membrane asymmetry and attachment, condensation of the cytoplasm and nucleus, and compaction and fragmentation of the nuclear chromatin. Exposure of phosphatidylserine (PS) on the external surface of the cell membrane has been reported to occur in the early phases of apoptotic cell death, during which the cell membrane remains intact. In leukocyte apoptosis, PS on the outer surface of the cell marks the cell for recognition and phagocytosis by macrophages. The human vascular anticoagulant, annexin V, is a 35-36 kDa Ca<sup>2+</sup> dependent phospholipid binding protein that has a high affinity for PS, and shows minimal binding to phosphatidylcholine and sphingomyelin. Changes in PS asymmetry, which can be analyzed by measuring annexin V binding to the cell membrane, are generally observed before morphological changes associated with apoptosis occurred and before membrane integrity is lost.

*Cy3<sup>®</sup> and Alexa Fluor<sup>®</sup> 555 are the trademarks of GE Healthcare and Invitrogen respectively.*

<b>Platform</b>	Flow cytometer, Fluorescence microscope
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Properties

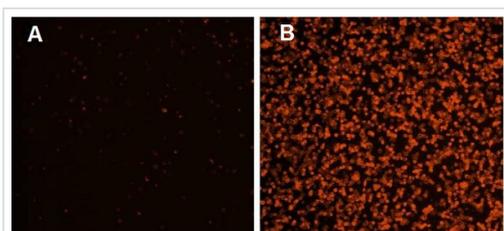
<b>Storage instructions</b>	Store at +4°C. Please refer to protocols.
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Components	100 tests
Annexin 555 (100X stock solution)	1 x 200µl
Assay Buffer	1 x 50ml

<b>Function</b>	This protein is an anticoagulant protein that acts as an indirect inhibitor of the thromboplastin-specific complex, which is involved in the blood coagulation cascade.
<b>Involvement in disease</b>	Pregnancy loss, recurrent, 3
<b>Sequence similarities</b>	Belongs to the annexin family. Contains 4 annexin repeats.
<b>Domain</b>	The [IL]-x-C-x-x-[DE] motif is a proposed target motif for cysteine S-nitrosylation mediated by the iNOS-S100A8/A9 transnitrosylase complex. A pair of annexin repeats may form one binding site for calcium and phospholipid.
<b>Post-translational modifications</b>	S-nitrosylation is induced by interferon-gamma and oxidatively-modified low-density lipoprotein (LDL(ox)) possibly implicating the iNOS-S100A8/9 transnitrosylase complex.

## Images



Images of Jurkat cells in a Costar black wall/clear bottom 96-well plate stained with the ab219917 Annexin V-iFluor 555 Apoptosis Detection Kit

Annexin V-iFluor 555 Apoptosis Detection Kit (ab219917).  
 Detection of phosphatidylserine (PS) exposure in Jurkat cells.  
 Jurkat cells were grown in a Costar black wall/clear bottom 96-well plate and either left untreated (A) or treated with 1 µM staurosporine (B) in a 37°C, 5% CO<sub>2</sub> incubator for 5 hours. Cells were then incubated with Annexin V-iFluor 555 Reagent for 30 minutes.  
 In live non-apoptotic cells, Annexin V-iFluor 555 conjugate detects innate apoptosis in non-induced cells, which is typically 2-6% of all cells. In apoptotic cells Annexin V-iFluor 555 conjugate binds to phosphatidylserine, which is located on the outer leaflet of the cell membrane, resulted in increased staining intensity.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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