Annexin V-FITC Apoptosis Staining / Detection Kit ab14085

Overview

Product name: Annexin V-FITC Apoptosis Staining / Detection Kit
Sample type: Adherent cells, Suspension cells
Assay type: Direct
Assay time: 0h 10m

Product overview:
Annexin V-FITC Apoptosis Staining / Detection Kit ab14085 is used in a 10 min, one-step staining procedure to detect apoptosis by staining phosphatidylserine molecules which have translocated to the outside of the cell membrane. Analysis is by flow cytometry or fluorescence microscopy.

The kit can differentiate apoptosis vs necrosis when performing both Annexin V-FITC and PI staining.

The Annexin V-FITC reagent contained in the kit is also available as Annexin V-FITC reagent ab14082.

Notes:
Soon after initiating apoptosis, cells translocate membrane phosphatidylserine molecules from the inner face of the plasma membrane to the cell surface. Phosphatidylserine on the cell surface is detected by staining with a fluorescent conjugate of Annexin V, a protein that has a high affinity for phosphatidylserine.

For more apoptosis assays, review the full set of Annexin V assays, or the apoptosis assay and apoptosis marker guide.

Platform:
Flow cytometer, Fluorescence microscope

Properties

Storage instructions: Store at +4°C. Please refer to protocols.

Components

<table>
<thead>
<tr>
<th>Components</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annexin V-FITC</td>
<td>1 x 500µl</td>
</tr>
<tr>
<td>Binding Buffer</td>
<td>1 x 50ml</td>
</tr>
<tr>
<td>Components</td>
<td>100 tests</td>
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<tr>
<td>------------------</td>
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<tr>
<td>Propidium iodide</td>
<td>1 x 500µl</td>
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</tbody>
</table>

**Function**

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.

**Involvement in disease**

Pregnancy loss, recurrent, 3

**Sequence similarities**

Belongs to the annexin family.
Contains 4 annexin repeats.

**Domain**

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.

**Post-translational modifications**

S-nitrosylation is induced by interferon-gamma and oxidatively-modified low-density lipoprotein (LDL(ox)) possibly implicating the iNOS-S100A8/9 transnitrosylase complex.

**Images**

Ab14085 was used to determine minor levels of apoptosis (using both the Annexin V-FITC and PI) in mouse cortical collecting duct cells (mCCDs). mCCD cells were incubated with serum free medium for 48h. The green label on the plasma membrane (Annexin V-FITC) and the absence of nuclear red (PI) staining indicates apoptosis rather than necrosis. Fluorescent microscopy was used to analyse the cells.
HeLa cells were harvested with trypsinization together with floating non-viable cells. Cells were washed with PBS and suspended in sodium citrate buffer 20 minutes prior to analysis. HeLa cells were treated with Mitoxantrone (MX) and MX + Imatinib for 48 hours. The samples were then stained with Annexin V-FITC Apoptosis Staining/Detection kit (ab14085). A FACSCalibur flow cytometer was used for cell cycle analysis.

This is a modified version of the original image.

PC3 cells were seeded at $10^6$ cells/ml and incubated overnight and then treated with CTA095 at various concentrations for 24 hours. Apoptosis was then analyzed using Annexin-V FITC apoptosis detection kit (ab14085).

This is a modified version of the original image.

Annexin V-FITC/ PI staining of AG06173 primary fibroblasts. $10^5$ cells were used for analysis. Resuspended cells were incubated with Annexin V-FITC for 15 min in the dark. Propidium iodide was used as a counterstain to discriminate necrotic/dead cells from apoptotic cells. Left: negative control - AG6173 untreated cells. Right: positive control - AG6173 cells irradiated at 10 Gy.

Image courtesy of S. Khoronenkova PhD, Gray Institute for Radiation Oncology and Biology, University of Oxford, Oxford, UK.
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