FITC Annexin V Apoptosis Detection Kit with PI

Catalog# / Size	640914 / 100 tests
Regulatory Status	RUO
Other Names	Annexin A5 Apoptosis Detection Kit
Description	BioLegend's FITC Annexin V Apoptosis Detection Kit with PI has been specifically designed for the identification of apoptotic and necrotic cells. Annexin V (or Annexin A5) is a member of the annexin family of intracellular proteins that binds to phosphatidylserine (PS) in a calcium-dependent manner. PS is normally only found on the intracellular leaflet of the plasma membrane in healthy cells, but during early apoptosis, membrane asymmetry is lost and PS translocates to the external leaflet. Fluorochrome-labeled Annexin V can then be used to specifically target and identify apoptotic cells. Annexin V Binding Buffer is recommended for use with Annexin V staining. Annexin V binding alone cannot differentiate between apoptotic and necrotic cells. To help distinguish between the necrotic and apoptotic cells we recommend use of our Propidium Iodide Solution (PI). Early apoptotic cells will exclude PI, while late stage apoptotic cells and necrotic cells will stain positively, due to the passage of these dyes into the nucleus where they bind to DNA. Propidium iodide is a fluorescent dye that binds to DNA. When excited by 488 nm laser light, it can be detected with in the PE/Texas Red® channel with a bandpass filter 610/10. It is commonly used in evaluation of cell viability or DNA content in cell cycle analysis by flow cytometry.

Product Details

Verified Reactivity	All mammalian species
Concentration	Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our Certificate of Analysis online tool.)
Storage & Handling	Store between 2°C and 8°C. **Do not freeze.** **Caution:** Propidium Iodide Solution is toxigenic and mutagenic; handle with care.
Application	FC - *Quality tested*
Recommended Usage	**Staining Procedure:** 1. Wash cells twice with cold BioLegend's Cell Staining Buffer, and then resuspend cells in Annexin V Binding Buffer at a concentration of 0.25-1.0 x 10^7 cells/mL. 2. Transfer 100 µL of cell suspension in a 5 mL test tube. 3. Add 5 µL of FITC Annexin V. 4. Add 10 µL of Propidium Iodide Solution. 5. Gently vortex the cells and incubate for 15 min at room temperature (25°C) in the dark. 6. Add 400 µL of Annexin V Binding Buffer to each tube. Analyze by flow cytometry with proper machine settings.
Application Notes	**Materials Provided**: 0.5 ml of FITC Annexin V 1 ml of Propidium Iodide Solution 50 ml of Annexin V Binding Buffer **Materials Not Included**: Cell Staining Buffer (Cat. No. 420201) **For a better experience detecting apoptosis, we now recommend Apotracker™. Cell staining with Apotracker™ is Calcium independent. Thus, no special buffers are required, and the protocol can be shortened for single-step co-staining with other reagents.**

Application References

(PubMed link indicates BioLegend citation)

1. Ranhanathan P, *et al.* 2013. *J AM Soc Nephrol.* PubMed
2. Yu J, *et al.* 2014. *PloS One.* 9:114650. PubMed
3. Wang Y, *et al.* 2014. *Biochem Biophys Res Commun.* 456:656. PubMed
4. Jaishy B, *et al.* 2015. *J Lipid Res.* 56:546. PubMed

Product Citations

1. Markowicz-Piasecka M, *et al.* 2020. Apoptosis. 25:426. PubMed
2. Lyu X, *et al.* 2019. Oncol Rep. 41:3137. PubMed
3. Su T, *et al.* 2021. Metabolites. 11:. PubMed
4. Tiu GC, *et al.* 2021. Dev Cell. 56:2089. PubMed
5. Zelenka T, *et al.* 2022. Nat Commun. 13:6954. PubMed
6. Ho J, *et al.* 2016. PLoS Biol. 14:e2000117. PubMed
7. Li MM, *et al.* 2018. Int J Infect Dis. 70:72. PubMed
8. Fang H, *et al.* 2022. Exp Ther Med. 24:440. PubMed
9. Chen J, *et al.* 2021. Antioxidants (Basel). 10:. PubMed

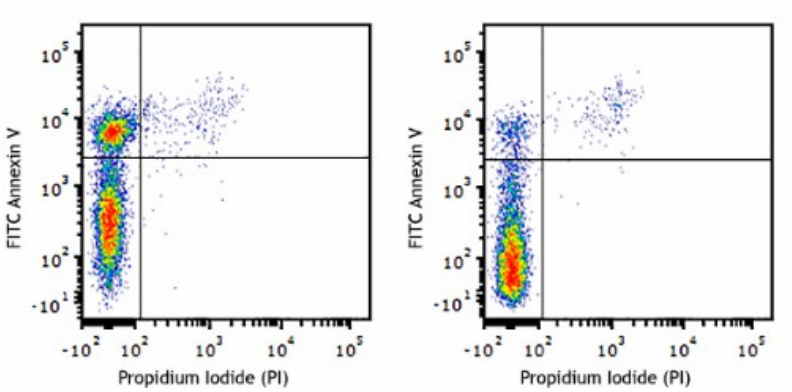
10. Shimonosono M, *et al.* 2021. Biomolecules. 11:. PubMed
11. Wang C, *et al.* 2021. Clin Transl Med. 11:e522. PubMed
12. Guo Q, *et al.* 2018. Front Immunol. 9:1197. PubMed

Antigen Details

Biology Area Apoptosis/Tumor Suppressors/Cell Death, Cell Biology, Neuroscience

Gene ID 308

Product Data



Human T leukemia cell line Jurkat, treated (left) or non-treated (right) with BioLegend's anti-human CD95 (EOS9.1) mAb (Cat. No. 305704) for 4 hours at 37°C, then stained with Annexin V- FITC for 15 minutes at 37°C in Annexin V Binding buffer. Propidium Iodide (PI) (cat. 421301 at 0.03 µg/Test) was added 5 minutes prior to running tubes.

8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587