

Annexin V — APC

Apoptosis & Protease Detection Kits

Product Information

Product No.: A437

Storage: 2° to 8°C

Product Description

Background:

Apoptosis, the physiological process of cell death, is a naturally occurring phenomenon. It is normally a tightly regulated process; however, if deregulated, tumor growth can result. Apoptotic processes can be measured in the laboratory easily and most effectively by using APC-labeled Annexin V protein to stain cells and analyze them via flow cytometry. It is a useful method to screen and analyze cells in a high throughput manner, resulting in a clearer understanding of the cellular response to various stimuli.

When cells are undergoing cell death, phosphatidylserine (PS), a phospholipid which makes up a portion of the cell membrane, will translocate to the outside-facing side of the membrane. This translocation in the cell death mechanism exposes PS to the extracellular environment. Annexin V, a 35-36 kDa phospholipid-binding protein, has a high affinity for PS (K_D=7nmol/l). Once Annexin V is bound to the apoptotic cell it acts as a beacon for cells that have undergone apoptosis. Annexin V is conjugated to APC, so the amount of signal, can be detected using conventional or spectral flow cytometry. The translocation of PS to the outside or exposed side of the membrane is an early event in the apoptotic process. Therefore, Annexin V staining is considered a marker for early-stage apoptosis. Often times, Annexin V is paired with Propidium Iodide (PI) stain in order to analyze for late-apoptotic or dead cells. Early-stage apoptotic cells will only take up the Annexin V stain but will remain PI negative, and late-stage apoptotic cells will be positive for both Annexin V and PI.

Format:

Allophycocyanin (APC)

Formulation

This Allophycocyanin (APC) conjugate is formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.4, 1% BSA and 0.09% sodium azide as a preservative.

Country of Origin

USA

References

- 1) Piazza, GA. *et al.* (2016) *Oncotarget*. **7**(5):5353-65.[PubMed](#)
- 2) Gassman, NR. *et al.* (2018) *Environ Toxicol*. **33**(3):333-342.[PubMed](#)
- 3) Gelles, JD. and Chipuk, JE. (2016) *Cell Death Dis*. **7**(12): e2493.