Leinco Technologies, Inc.
excellence in early discovery research™

Annexin V — Biotin

Apoptosis & Protease Detection Kits

Product Information

Product No.: A439
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 Fluorescently-labeled Annexin V protein to stain cells and analyze them via flow cytometry. With Biotin-labeled Annexin V, you would follow the primary labeling of the cells with a SAV-conjugated to a fluorescent molecule for visualization (i.e. FITC, PE, or any other). 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 (KDa=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 often conjugated to various fluorophores so the amount of signal can be measured and analyzed from labeled cells using a flow cytometer. 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:
Biotin

Formulation

This Biotin 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.

410 Axminister Dr, St. Louis, MO 63026 (800) 538-1145 leincoglobal@leinco.com