

EXB0019

Annexin V Binding Buffer (10x)

50 ml

Intended Use

The buffer is intended for use with Annexin V for detection of early apoptotic cells by flow cytometry.

Background

Apoptosis is a regulated cell death process characterized by morphological and biochemical features occurring at different stages. The translocation of phosphatidylserine (PS) from the inner side of the plasma membrane to the outer layer is one of the plasma membrane alterations during apoptosis. By this process PS becomes exposed on the external surface of the cell. Detection of such membrane changes by Annexin V binding to PS has been suggested as a suitable assay of early apoptotic cells.

Annexin V is a 35 kDa intracellular protein. It belongs to the family of proteins that bind to phosphatidylserine (PS) under a Ca^{2+} -dependent conditions. Fluorescently labeled Annexin V can be applied, with appropriate buffer (Annexin V Binding Buffer), for direct quantification of apoptotic cells using suitable protocols.

Since PS membrane translocation also occurs during necrosis, Annexin V is not an absolute marker of apoptosis. It is often used simultaneously with appropriate viability evaluation dyes such as propidium iodide (PI) to counterstain dead cells. PI is an intercalating agent and a fluorescent molecule. Propidium iodide passes through the plasmatic membrane of late apoptotic cells and necrotic cells and bind to chromosomal DNA. Plasmatic membrane of viable and early apoptotic cells is impermeable for PI.

Reagents Provided

Annexin V Binding Buffer (10x)

Quantity: 50 ml (10x concentrated).

Form: Concentrated filter-sterilized solution (0.1M HEPES/NaOH, pH 7.4, 1.4M NaCl, 25mM $CaCl_2$).

Dilute 10X in deionized water prior to use.

Storage

Store at 2-8°C. Do not freeze. Do not use after expiration date stamped on vial label.

Short-term exposure to room temperature should not affect the quality of the reagent. However, if the reagent should be stored under any conditions other than those specified, the conditions must be verified by the user. Expiration date is stated on a vial label.

Other Apoptosis detection reagents:

	Description:	Quantity:
ED7044	ApoFlowEx® Kit	100 tests
EXB0023	Annexin V – DY647	100 tests
EXB0024	Annexin V – FITC	100 tests
EXB0018	Propidium Iodide	100 tests