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Human Annexin V Protein

Catalog Number:	604201, 604202
Size:	25 ug, 100 ug
Target Name:	Annexin A5
Regulatory Status:	RUO

PRODUCT DETAILS

Application:	Flow Cytometry
Format:	Liquid, Purified
Expression Host:	E.coli
Species:	Human
Accession Number:	P08758
Sources:	Recombinant Human Annexin A5 (Met1-Asp320) with N-His-Xa tag is expressed in E.coli system. His tag is cut by Xa after purification.
Molecular Weight:	This protein has a predicted molecular weight of 35.9 kDa. Under DTT-reducing conditions, the protein migrates at approximately 35 kDa on SDS-PAGE.
Affinity Tag:	None
Purity:	>95% based on SDS-PAGE under reducing condition
Formulation:	1xPBS/0.09%NaN3
Endotoxin level:	Not tested
Protein Concentration:	25μg size is bottled at 0.2mg/mL concentration. 100 μg size is supplied at a lot-specific concentration.
Storage and Handling:	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4°C for up to 2 weeks, or at -20°C or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 μm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ –70°C to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.

BACKGROUND INFORMATION

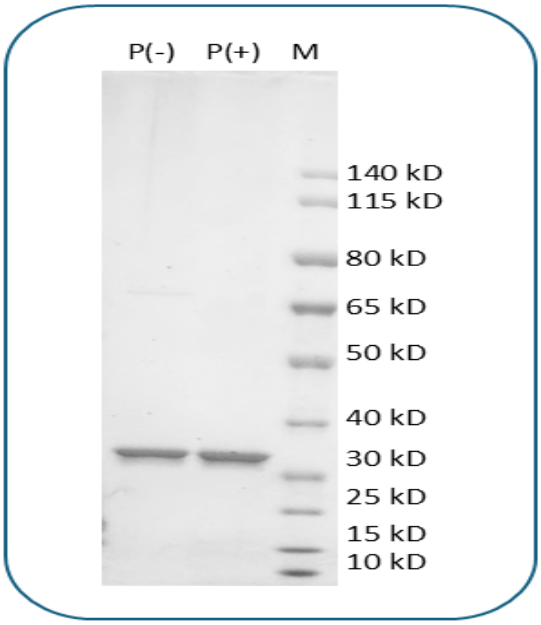
Annexin V is a calcium-dependent phospholipid-binding protein widely used as a tool to detect apoptosis. It belongs to the annexin family of proteins, which share the ability to bind negatively charged membrane phospholipids in the presence of calcium ions. Annexin V has high affinity for phosphatidylserine (PS), a phospholipid that is normally confined to the inner leaflet of the plasma membrane in healthy cells. During early apoptosis, PS becomes externalized to the outer leaflet, where Annexin V can bind, making it a sensitive marker for programmed cell death.

Structurally, Annexin V is a ~35–36 kDa protein composed of four homologous annexin repeats that form a slightly curved, disc-like

structure. Each repeat contributes to calcium-binding sites that coordinate calcium ions, enabling the protein to interact with phospholipid head groups. The convex surface of Annexin V mediates membrane binding in a calcium-dependent manner, while the opposite surface remains exposed for detection when conjugated to fluorophores or other labels. Annexin V can also form two-dimensional arrays on membrane surfaces under certain conditions.

Its primary ligands are phosphatidylserine and calcium ions. In research and development, fluorescently labeled Annexin V (e.g., FITC, PE, or APC conjugates) is extensively used in flow cytometry and fluorescence microscopy to quantify apoptotic cells. It is commonly combined with viability dyes such as propidium iodide to distinguish early apoptotic, late apoptotic, and necrotic cells. Beyond apoptosis assays, Annexin V is used in drug screening, cancer biology, immunology, and toxicology studies. Its reliable and specific detection of PS exposure makes it a foundational reagent in cell death analysis and therapeutic development workflows.

PRODUCT DATA



Purified Human Annexin V Protein on SDS-PAGE under non-reducing (P-) and reducing (P+) conditions. The gel was stained for 1 hour with BlinkBlue Protein Staining Buffer (Catalog 700102). The purity of this protein appears to be greater than 95%.