

Product Datasheet

Annexin V Apoptosis Kit [FITC] NBP2-29373-100Tests

Unit Size: 100 Tests

Store at 4C. Do not freeze.

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NBP2-29373-100Tests**Annexin V Apoptosis Kit [FITC]**

Product Information	
Unit Size	100 Tests
Concentration	Concentration is not relevant for this product. Please see the protocols for proper use of this product.
Storage	Store at 4C. Do not freeze.
Conjugate	FITC
Product Description	
Description	Annexin V Apoptosis Kit [FITC] can identify apoptosis at an earlier stage than kits based on DNA fragmentation in the nucleus. However, it is like most assays and has limitations. Since Annexin V staining precedes the loss of membrane integrity which accompanies the later stages of cell death resulting from either apoptotic or necrotic processes, staining with Annexin V-FITC is typically used in conjunction with a live/dead dye such as propidium iodide (PI) or 7-Amino-Actinomycin (7-AAD) to allow the investigator to identify early apoptotic cells (PI negative, Annexin V-FITC positive) from dead cells (PI positive, AnnexinV-FITC positive). Viable cells with intact membranes exclude PI, whereas the membranes of dead and damaged cells are permeable to PI. For this reason, Annexin V staining has to be performed on live cells as opposed to assays which require para- formaldehyde/ethanol fixed cells. The Annexin V assay works in the following manner: Cells that are viable are both Annexin V-FITC and PI negative. While cells that are in early apoptosis are Annexin V-FITC positive and PI negative and cells that are in late apoptosis or already dead are both FITC Annexin V and PI positive. This assay does not distinguish between cells that have undergone apoptotic death versus those that have died as a result of a necrotic pathway because the dead cells will stain with both Annexin V-FITC and PI (see image). However, when apoptosis is measured over time, cells can be often tracked from Annexin V- FITC and PI negative (viable, or no measurable apoptosis), to Annexin V-FITC positive and PI negative (early apoptosis, membrane integrity is present) and finally to Annexin V- FITC and PI positive (end stage apoptosis and death). The movement of cells through these three stages suggests apoptosis. In contrast, a single observation indicating that cells are both Annexin V-FITC and PI positive, in of itself, reveals less information about the process by which the cells underwent their demise. For this reason, it is a good idea to analyze samples from multiple time points.
Gene ID	308
Gene Symbol	ANXA5
Species	Human, Mouse, Rat
Reactivity Notes	Human reactivity reported in scientific literature (PMID: 23955790). Mouse reactivity reported in scientific literature (PMID: 22566271). Rat reactivity reported in scientific literature (PMID: 25947082)
Kit Components	Propidium Iodide (PI) Solution, 10X PBS Solution, Compensation Control Cells, Annexin V-FITC, 10X Binding Buffer
Notes	ADDITIONAL ITEMS REQUIRED (NOT INCLUDED IN THE KIT) Distilled H2O Flow Cytometer Experimental Cells Centrifuge Positive Control Cell Line (recommended, not required)

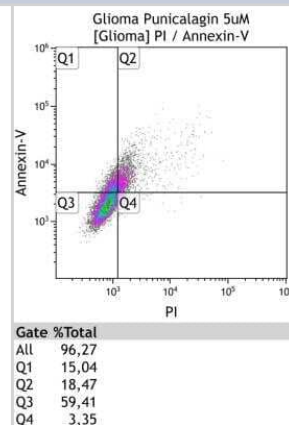
Product Application Details

Applications	Flow Cytometry, Flow (Cell Surface), Immunocytochemistry/ Immunofluorescence
Recommended Dilutions	Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Flow (Cell Surface)
Application Notes	<p>Use in Flow cell surface reported in scientific literature (PMID: 23955790). Use the Control Cells provided to set up compensation and quadrants. The Control Cells are positive for both Annexin V-FITC and PI.</p> <p>The basal level of apoptosis and necrosis varies considerably within a give cell population. Even in the absence of induced apoptosis, most cell populations will contain a minor percentage of cells that are positive for apoptosis (Annexin V-FITC positive, PI negative) and dead, necrotic, or in the late stages of apoptosis (Annexin V-FITC positive, PI positive). Thus, an untreated cell population is used to define the basal level of apoptotic and dead cells.</p> <p>Determine the percentage of cells that have been induced to undergo apoptosis by subtracting the percentage of apoptotic cells in the untreated from the treated population. Since cell death is the eventual outcome of cells undergoing apoptosis, cells in the late stages of apoptosis will have a damaged membrane and stain positive for PI as well as for Annexin V-FITC.</p> <p>Consequently cells which have undergone necrosis are not distinguishable from those which have undergone apoptosis. Use in Immunocytochemistry/immunofluorescence reported in scientific literature (PMID: 25947082). Use in FLOW cytometry reported in scientific literature (PMID: 27448441).</p>

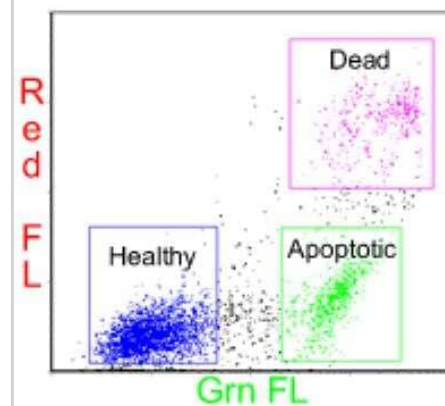


Images

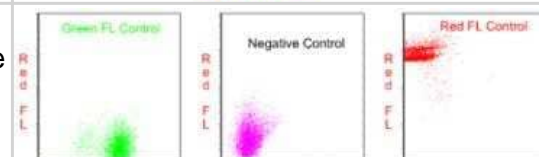
Flow Cytometry: Annexin V Apoptosis Kit [FITC] [NBP2-29373] - Flow cytometry image submitted by a verified customer review.



Flow Cytometry: Annexin V Apoptosis Kit [FITC] [NBP2-29373] - Adherent RAW cells treated with actinomycin-D, detached with a cell detachment solution and stained with the Annexin V Apoptosis Kit [FITC].



Flow Cytometry: Annexin V Apoptosis Kit [FITC] [NBP2-29373] - Controls run before the experimental samples are analyzed, to adjust the fluorescent compensation on the flow cytometer due to the FITC signal from the Annexin V-FITC bleeding into the Propidium Iodide signal.



Publications

Giulia Girolimetti, Flora Guerra, Luisa Iommarini, Ivana Kurelac, Daniele Vergara, Michele Maffia, Michele Vidone, Laura Benedetta Amato, Giulia Leone, Sabrina Dusi, Valeria Tiranti, Anna Myriam Perrone, Cecilia Bucci, Anna Maria Porcelli, Giuseppe Gasparre Platinum-induced mitochondrial DNA mutations confer lower sensitivity to paclitaxel by impairing tubulin cytoskeletal organization. *Human molecular genetics* 2018-01-08 [PMID: 28486623]

Hsiu-Lien Herbie Lin, Pascal Mermillod, Isabelle Grasseau, Elisabeth Blesbois, Anaïs Vitorino Carvalho Exploring how sucrose-colloid selection improves the fertilizing ability of chicken sperm after cryopreservation with glycerol *Poultry Science* 2024-01-10 [PMID: 38237325]

Lin HH, Mermillod P, Grasseau I et al. Is glycerol a good cryoprotectant for sperm cells? New exploration of its toxicity using avian model *Animal reproduction science* 2023-09-17 [PMID: 37734123] (FLOW)

Kumari K, Behera HT, Nayak PP et al. Amelioration of lipopeptide biosurfactants for enhanced antibacterial and biocompatibility through molecular antioxidant property by methoxy and carboxyl moieties *Biomedicine & pharmacotherapy = Biomedecine & pharmacotherapie* 2023-05-01 [PMID: 36906974]

Skivka LM, Fedorchuk OG, Bezdeneznykh NO. The effect of antineoplastic drug NSC631570 on immunogenicity of B16 melanoma. *Exp Oncol* 2010-08-10 [PMID: 20693969]

Yapa A, Wang H, Wendel S et al. Peptide nanosponges designed for rapid uptake by leukocytes and neural stem cells *RSC Adv* 2022-05-11 [PMID: 35542227]

Zhao X, Jiang L, Hu D et al. NPRL2 reduces the niraparib sensitivity of castration-resistant prostate cancer via interacting with UBE2M and enhancing neddylation *Experimental cell research* 2021-04-24 [PMID: 33905671] (FLOW)

Husain S, Verma SK, Yasin D et al. Facile green bio-fabricated silver nanoparticles from *Microchaete* infer dose-dependent antioxidant and anti-proliferative activity to mediate cellular apoptosis *Bioorganic chemistry* 2020-12-11 [PMID: 33341280]

Chiavari M, Ciotti GMP, Canonico F et al. PDIA3 Expression in Glioblastoma Modulates Macrophage/Microglia Pro-Tumor Activation *Int J Mol Sci* 2020-11-03 [PMID: 33153019] (CA, Human)

Details:

Cell apoptosis analysis of CHME-5 cell line transfected with PDIA3 siRNA

Xia W, Bai H, Deng Y, Yang Y PLA2G16 is a mutant p53/KLF5 transcriptional target and promotes glycolysis of pancreatic cancer *J Cell Mol Med* 2020-09-27 [PMID: 32985124] (FLOW, Mouse)

Chiavari M, Ciotti G, Canonico F et al. PDIA3 Reduce Glioma-associated Macrophage/microglia Pro-tumor Activation through IL-6-STAT3-PDIA3 Pathway. *Research Square* 2020-08-04 [PMID: 33153019]

Mamriev D, Abbas R, Klingler FM et al. A small-molecule ARTS mimetic promotes apoptosis through degradation of both XIAP and Bcl-2 *Cell Death Dis* 2020-06-25 [PMID: 32587235]

More publications at <http://www.novusbio.com/NBP2-29373>

Procedures

MSDS for Non Hazardous Product (NBP2-29373)

Material Safety Data Sheet for Non Hazardous Products

Hazard Information

Chemical Name: Non hazardous products.

Chemical Formula: N/A

CAS Number: N/A

EEC-No: N/A

Hazard Identification

None

First Aid Measures

Eye Contact: None

Skin Contact: None

Inhalation: None

Ingestion: None

Accidental Release Measures

This product either does not contain hazardous constituents or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC. 88/379/EEC, and 67/546/EEC.

Handling and Storage

Exposure Controls / Personal Protection

Other Precautions: None

Physical and Chemical Properties

Form: N/A

Color: N/A

Odor: N/A

Melting Point: N/A

Boiling Temperature: N/A

Density: N/A

Vapor Pressure: N/A

Solubility in Water: N/A

Flash Point: N/A

Explosion limits: N/A

Ignition Temperature: N/A





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Products Related to NBP2-29373-100Tests

NBP1-30265	Recombinant Human Annexin V Protein
210-TA-005	TNF-alpha [Unconjugated]
AF399	Annexin V Antibody [Unconjugated]
AF835	Caspase-3 Antibody [Unconjugated] - Active

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Kits are guaranteed for 6 months from date of receipt.

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