Product Datasheet

Polarity Sensitive Indicator of Viability Flow Cytometry Kit

NBP2-29611-100Tests

Unit Size: 100 Tests

Storage is content dependent.

Reviews: 1  Publications: 13

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:

www.novusbio.com/NBP2-29611

Updated 9/21/2016 v.20.1
## NBP2-29611-100Tests
### Polarity Sensitive Indicator of Viability Flow Cytometry Kit

### Product Information

<table>
<thead>
<tr>
<th><strong>Unit Size</strong></th>
<th>100 Tests</th>
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<tbody>
<tr>
<td><strong>Concentration</strong></td>
<td>Concentration is not relevant for this product. Please see the protocols for proper use of this product.</td>
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<tr>
<td><strong>Storage</strong></td>
<td>Storage is content dependent.</td>
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<tr>
<td><strong>Conjugate</strong></td>
<td>IANBD</td>
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### Product Description

| **Description** | Polarity Sensitive Indicator of Viability (pSIVA (Annexin XII)) is an Annexin based, polarity sensitive probe for the spatiotemporal or kinetic analysis of apoptosis and other forms of cell death. pSIVA (Annexin XII) binding is reversible enabling researchers, for the first time, to detect transient PS exposure which is associated with normal physiological processes as well as with reversible or rescuable apoptosis cell death events. pSIVA (Annexin XII) is conjugated to IANBD, a polarity sensitive dye that fluoresces only when pSIVA is bound to the cell membrane. pSIVA’s membrane-bound dependent fluorescence and reversible binding properties are a technological leap for detecting PS exposure and offer additional information on the apoptosis pathway and cell survival compared to Annexin V conjugates. Annexin V binding is nonreversible. |
| **Species** | Human, Mouse |
| **Reactivity Notes** | Human and Mouse reactivity reported in scientific literature (PMID: 24804954) |
| **Kit Components** | pSIVA-IANBD 5 ul/test (1 x 10^6 cells), Propidium Iodide Staining Solution 5 ul/test (1 x 10^6 cells), 10X PBS Buffer, 10X Binding Buffer |
| **Notes** | pSIVA is protected under patent number: 8,541,549 |

### Product Application Details

| **Applications** | Flow Cytometry, Flow (Cell Surface) |
| **Recommended Dilutions** | Flow Cytometry 1ul/1 million cells, Flow (Cell Surface) |
| **Application Notes** | Please see PDF manual attached for specific usage information. Use in Flow cell surface reported in scientific literature (PMID 24804954) |
**Images**

Flow Cytometry: Polarity Sensitive Indicator of Viability Apoptosis Kit [IANBD] [NBP2-29611] - pSIVA-IANBD(TM) + PI shows progressive population staining as cells move from healthy towards death.

![Flow Cytometry: Polarity Sensitive Indicator of Viability Apoptosis Kit](image1)

Flow Cytometry: Polarity Sensitive Indicator of Viability Apoptosis Kit [IANBD] [NBP2-29611] - pSIVA-IANBD(TM) shows progressive population staining as cells move from healthy towards death.

![Flow Cytometry: Polarity Sensitive Indicator of Viability Apoptosis Kit](image2)

**Publications**


Details:
Polarity Sensitive Indicator of Viability Flow Assay Kit used for quantifying apoptosis in adherent cells or supernatant cells from Axl_TAM TKO MEF cultures - cells stained with propidium iodide which bind dead cells and pSIVA which fluoresces when bound to PtdSer (data in Figure 4B).


Details:
Flow cytometry (Cell surface): MDA-MB-231 (Fig 4A) and MDA-MB-468 (Fig 4B) adenocarcinoma cells.


Details:
pSIVA-IANBD Flow Kit: Flow (Cell Surface): Fig 1 (HEK293 cells). pSIVA-IANBD was used to determine the basal level of apoptosis in HEK cells.

Details:
Live imaging: pSIVA as an important advancement in annexin based methodology.

Ruggiero L, Connor MP, Chen J et al. Diurnal, localized exposure of phosphatidylserine by rod outer segment tips in wild-type but not Itgb5-/- or Mfge8-/- mouse retina. Proc Natl Acad Sci U S A. 2012 May 22 [PMID: 22566632] (Mouse)

Details:
Live tissue imaging (mouse retina): Figs 4, 5. pSIVA-IANBD was added to dissected live mouse retina and shown to label the tips of photoreceptor outer segments (POS). The results suggested that phosphatidylserine (PS) exposure is specific to the POS surface. Furthermore, enhanced PS exposure preceded rod shedding and phagocytosis, suggesting that surface PS exposure promotes these processes.


Details:
IF (mouse primary neuron cultures): Figs 2B, 3. Cells were labeled with pSIVA-IANBD for 15 min, fixed and stained with a MAP2 antibody and DAPI. Cells double-stained with both pSIVA-IANBD and MAP2 (neuronal marker) were identified as degenerating neurons.


Details:
IF (HepG2 cells infected with P. berghei parasites), Fig 1


Details:
Live imaging: pSIVA as an assay for real-time detection of apoptosis.


Details:
A pSIVA-IANBD based cell suspension toxicity assay was used to determine cell viability in mouse Neuro2A (neuroblastoma) overexpressing huntingtin proteins (Fig 4).


Details:
Live cell imaging (etoposide treated cell lines & NGF-deprived primary neuronal cultures): Discussion about tools for tracking cell death real-time.


Details:
Real-time live-cell imaging and time-lapse microscopy of apoptosis: Fig 2 (Cos-7 cells), Fig 3 (neuronal degeneration), Fig 4 (axonal degeneration), Fig 5 (rescue of neuronal degeneration as visualized by pSIVA).

More publications at http://www.novusbio.com/NBP2-29611
Procedures

MSDS (NBP2-29611)  
Propidium Iodide

Hazard Information
Chemical Name: Propidium Iodide  
CAS Number: 25535-16-4

Hazard Identification  
Eye, skin

First Aid Measures  
Eye Contact: Irrigate thoroughly with water for at least 15 minutes. Seek medical advice.  
Skin Contact: Wash skin thoroughly with soap and water for at least 15 minutes. Remove contaminated clothing and wash before re-use. In severe cases, obtain medical attention.  
Inhalation: Remove from exposure, rest and keep warm. In severe cases, seek medical advice.  
Ingestion: Wash out mouth thoroughly with water and give plenty of water to drink. Seek medical advice.

Accidental Release Measures  
Wear appropriate protective clothing. Inform others to keep a safe distance. Spread inert absorbent material liberally over spillage. If local regulations permit, mop up cautiously with plenty of water and run to waste, diluting greatly with running water. Otherwise transfer to container and arrange removal by disposal company. Wash site of spillage thoroughly with water.

Handling and Storage  
Handling: No special handling required. Store at 4°C or colder, protect from light.  
Exposure Controls / Personal Protection  
Ventilation: Use in an open, well-ventilated area  
Gloves: Rubber or plastic  
Eye Protection: Lab goggles or face shield

Physical and Chemical Properties
Form: Liquid  
Color: Colorless  
Odor: Odorless  
Melting Point: 220-225°C  
Boiling Temperature: No data available  
Density: No data available  
Vapor Pressure: No data available  
Solubility in Water: Very soluble  
Flash Point: No data available  
Explosion limits: No data available  
Ignition Temperature: No data available

Stability and Reactivity  
Stable at room temperature

Other Information  
Transport: not classified as dangerous

IANBD

Hazard Information
Chemical Name: N-((2-(iodoacetoxy)ethyl)-N-methyl)amino-7-nitrobenz-2-oxa-1,3-diazole (IANBD ester)

Hazard Identification:  
The product contains no substances which at their given concentration are considered to be hazardous to health.  
NOVUS recommends handling all chemicals with caution.
PBS Buffer

Hazard Information
Chemical Name: Phosphate Buffered Saline

Hazard Identification
The product contains no substances which at their given concentration are considered to be hazardous to health. NOVUS recommends handling all chemicals with caution.

Binding Buffer

Hazard Information
Chemical Name: Proprietary composition

Hazard Identification
The product contains no substances which at their given concentration are considered to be hazardous to health. NOVUS recommends handling all chemicals with caution.
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.

For more information on our 100% guarantee, please visit www.novusbio.com/guarantee

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