



CELL TECHNOLOGY

# APO LOGIX™

## Sulforhodamine Caspase Detection Kits

*Apoptosis Detection and in situ labeling of active caspase in live cells.*

### Unique:

Other caspase detection assays on the market work through substrate cleavage mechanisms or immunohistochemical principles. APO LOGIX reagents work by active caspase inhibition. Since apoptosis is arrested upon the binding of the reagent to the active caspase heterodimer, the apoptotic cell population does not diminish over time.

### Easy to Use:

Add reagent directly to cells. No special buffer or media needed. No preparation of cell lysates required. Simple wash procedure.

### Quick:

Incubate for one hour, wash twice, and measure. No time course studies necessary.

### Adaptable:

Works in diverse cell lines: human, rodent, Drosophila. Can be performed in conjunction with Annexin staining, TUNEL, antibody staining, or with other APO LOGIX reagents on the same population of cells. Permits high through-put screening. Protocol can be adapted for ex vivo as well as in situ experiments.

### Non-Cytotoxic:

Arrests further apoptotic activity via caspase inhibition.

### Cell Permeable:

Permits direct visualization of cytosolic apoptotic events.

### Compatible with Multiple Fluorometric Modalities:

Fluorescence microscopy. 96-well fluorescence plate reader.

### Reliable:

Yields both quantitative and qualitative results. Gives strong signal with little background noise.

### Optimizable:

Cell Technology offers free technical support to help researcher optimize the application of the APO LOGIX reagents to particular experimental contexts.

### Comprehensive:

APO LOGIX reagents mark activity across the range of caspase proteins. Our poly-caspase assay is useful for visualizing general caspase activity.

## APO LOGIX

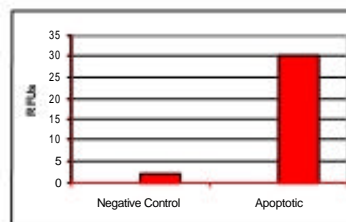
Sulforhodamine caspase detection kits label active caspases in living cells that are undergoing apoptosis. Cell Technology's probes utilize Sulforhodamine (SR) labeled peptide fluoromethyl ketone (FMK) caspase inhibitors (SR-peptide-FMK). These SR-peptide-FMK are both cell permeable and non-cytotoxic during the course of the assay, thus allowing the detection of active caspases in living cell systems.

### Assay Principle:

When added to a population of cells undergoing apoptosis, the SR-peptide-FMK probe enters each cell and covalently binds to the reactive cysteine residue on the large subunit of the caspase heterodimer, thereby the probe is sequestered and accumulates inside the cell. At the same time it inhibits further caspase activity. The remaining unbound reagent is easily washed away. Cells with the bound SR-peptide-FMK can be detected by flow cytometry, fluorescence microscope or a 96 well fluorescence plate reader. The SR-peptide-FMK reagent excites at 550 nm and has a maximum emission range of 590-600 nm.



Jurkat cells stimulated with staurosporine for 2 hours and then labeled with SR-VAD-FMK. Left side 30X phase contrast. Right side 30X fluorescence microscope. Excitation: 550nm emission > 580nm.



Jurkat cells stimulated with staurosporine for 2 hours. Cell were then stained with SR-VAD-FMK for 1 hour and read in a 96 well fluorescence plate reader.

For research purposes only. Not for diagnostic or therapeutic use



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## References:

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2. Amstad PA; Johnson GL; Lee BW; Dhawan S. CaspaTag™ FAM-VAD-FMK: A Novel In Situ Marker for the Detection of Activated Caspases. American Biotechnology Laboratory 2000: 18 (10): 52-54.
3. Phelps DJ; Cell Death Makes For Life Giver. Helix 2000 June: 12
4. Bedner E; Smolewski P; Amstad PA; Darzynkiewicz Z. Activation of Caspases Measured In Situ by Binding of Fluorochrome-Labeled Inhibitors of Caspases (FLICA): Correlation with DNA Fragmentation. Experimental Cell Research. 2000: 259:308-313.
5. Smolewski P; Bedner E; Du L; Hsieh T-C; Wu JM; Phelps DJ; Darzynkiewicz Z. Detection of Caspases Activation by Fluorochrome-Labeled Inhibitors: Multiparameter Analysis by Laser Scanning Cytometry. Cytometry 2001: 44:73-82.
6. Phelps DJ; Amstad PA; Johnson GL; Lee BW. New Fluorescent Tools for Apoptosis. Luminescence Forum. 2001: Vol 7, No. 1, pgs 4, 12.
7. Amstad PA; Yu G; Johnson GL; Lee BW; Dhawan S; Phelps DJ. Detection of Caspase Activation In Situ by Fluorochrome-Labeled Caspase Inhibitors. BioTechniques 2001: 31:608-616.

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## Order Information

| Product Description                   | Catalog # | Size      | Price |
|---------------------------------------|-----------|-----------|-------|
| SR-VAD-FMK Poly caspase detection kit | SR100-1   | 25 Tests  | \$195 |
| SR-VAD-FMK Poly caspase detection kit | SR100-2   | 100 Tests | \$525 |
| SR-DEVD-FMK Caspase 3 detection kit   | SR200-1   | 25 Tests  | \$195 |
| SR-DEVD-FMK Caspase 3 detection kit   | SR200-2   | 100 Tests | \$525 |

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