



Apoptosis Kits

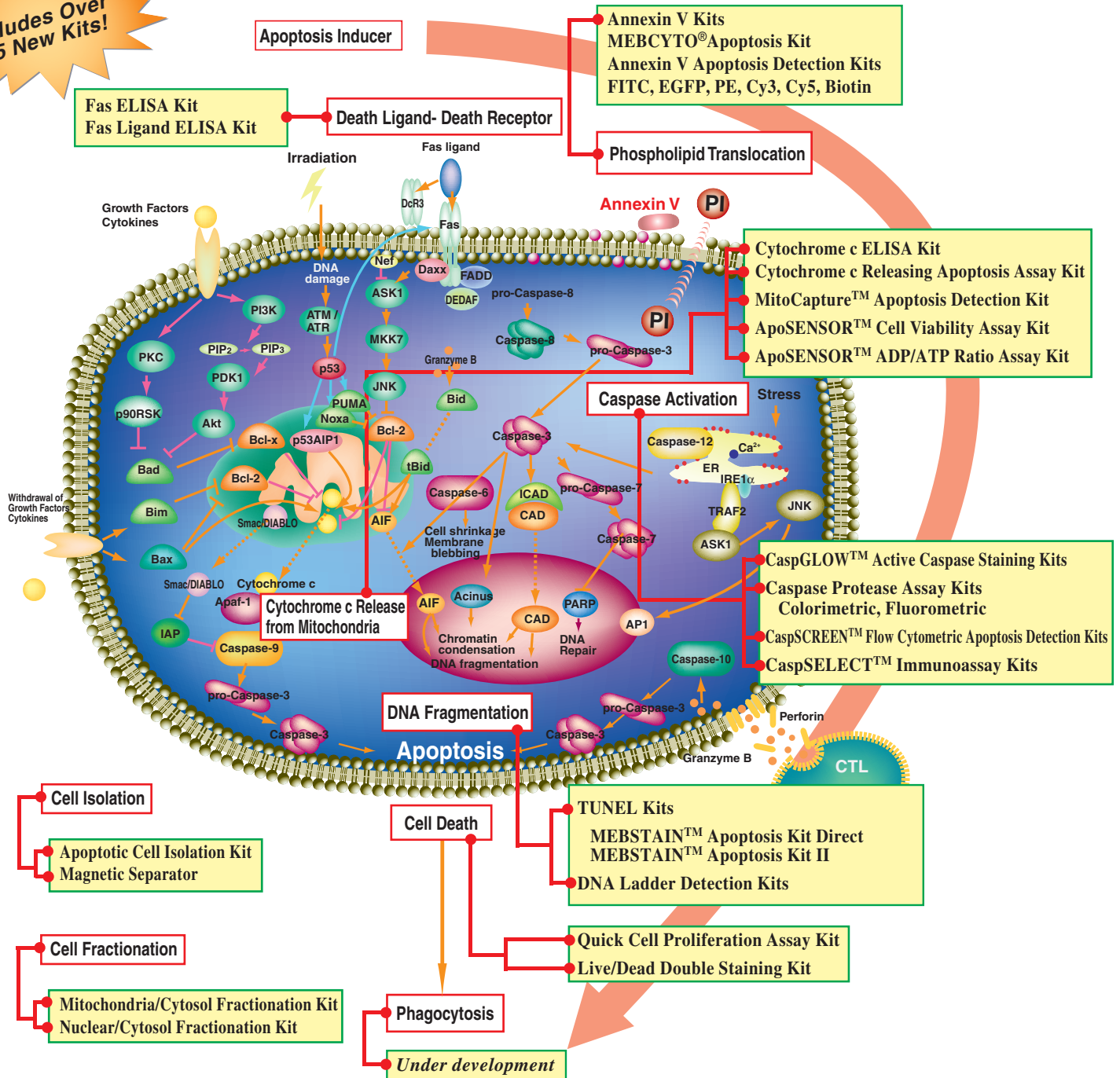
MBL[®]
International Corporation

Products and Solutions to Advance Scientific Discoveries[™]

For research use only

Apoptosis Signal Cascade and Detection Kits

Includes Over 25 New Kits!

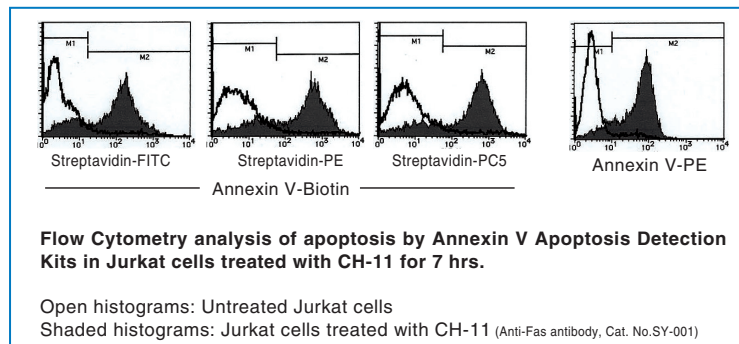
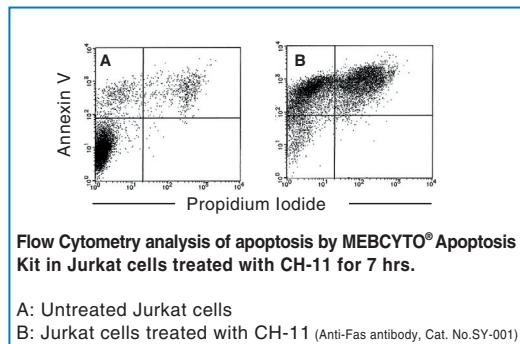


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Annexin V Kits

Annexin V Kits are based on the observation that soon after initiating apoptosis, most cells translocate the phospholipid phosphatidylserine (PS) from the inner face of the plasma membrane to the cell surface. Once on the cell surface, PS can be easily detected by staining with fluorochrome-conjugated annexin V. We have many types of Annexin V Kits with different fluorochromes. This allows researchers the flexibility to select the kit optimal for their needs.



★ FITC Labeled

Products	Code No.	Quantity
MEBCYTO [®] Apoptosis Kit	4700	100 tests
	BV-K101-2	25 tests
Annexin V-FITC Apoptosis Detection Kit	BV-K101-3	100 tests
	BV-K101-4	400 tests
Annexin V-FITC Apoptosis Detection Kit Plus	JM-K201-25	25 tests
	JM-K201-100	100 tests
	JM-K201-400	400 tests
Annexin V-FITC (Reagent)	BV-1001-5	1000 tests

★ Biotin Labeled

Products	Code No.	Quantity
Annexin V-Biotin Apoptosis Detection Kit	BV-K109-2	25 tests
	BV-K109-3	100 tests
	BV-K109-4	400 tests
Annexin V-Biotin (Reagent)	BV-1003-3	0.1 mg
	4695-100	100 tests
	BV-1003-5	1000 tests

★ PE Labeled

Products	Code No.	Quantity
Annexin V-PE Apoptosis Detection Kit	BV-K128-2	25 tests
	BV-K128-3	100 tests
	BV-K128-4	400 tests
Annexin V-PE Apoptosis Detection Kit Plus	JM-K203-25	25 tests
	JM-K203-100	100 tests
	JM-K203-400	400 tests
Annexin V-PE-Cy5 Apoptosis Detection Kit	JM-K129-25	25 tests
	JM-K129-100	100 tests
	JM-K129-400	400 tests
Annexin V-PE (Reagent)	4696-100	100 tests
	BV-1014-5	1000 tests
Annexin V-PE-Cy5 (Reagent)	JM-1015-1000	1000 tests

★ CoralHue™ Azami Green-Labeled

Products	Code No.	Quantity
Apopcyto™ Annexin V-Azami Green Apoptosis Detection Kit	4690	100 tests

★ Others

Products	Code No.	Quantity
Annexin V-Cy3 Apoptosis Detection Kit	BV-K102-2	25 tests
	BV-K102-3	100 tests
	BV-K102-4	400 tests
Annexin V-Cy3 Apoptosis Detection Kit Plus	JM-K202-25	25 tests
	JM-K202-100	100 tests
	JM-K202-400	400 tests
Annexin V-Cy5 Apoptosis Detection Kit	BV-K103-2	25 tests
	BV-K103-3	100 tests
	BV-K103-4	400 tests
Annexin V-EGFP Apoptosis Detection Kit	BV-K104-2	25 tests
	BV-K104-3	100 tests
	BV-K104-4	400 tests
Annexin V-Cy3 (Reagent)	BV-1002-5	1000 tests
Annexin V-Cy5 (Reagent)	BV-1013-5	1000 tests
Annexin V-EGFP (Reagent)	BV-1004-5	1000 tests

Related Products

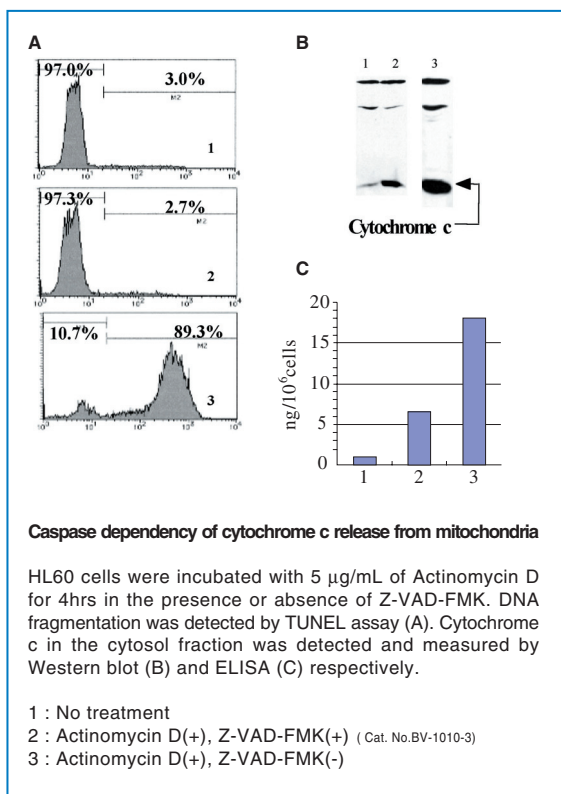
Products	Code No.	Quantity
1x Annexin V Binding Buffer	BV-1035-3	100 mL
5x Annexin V Binding Buffer	4695-300	50 mL
Propidium Iodide	BV-1056-7	1 mL
Annexin V (unlabelled)	BV-1005-3	100 µg
Anti-Annexin V Polyclonal Antibody	JM-3357-100	100 µg

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Cytochrome c and Related Kits

Cytochrome c ELISA Kit



Products	Code No.	Quantity
Cytochrome c ELISA Kit	5265	96 wells

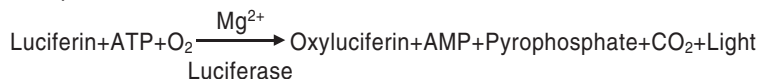
Cytochrome c Releasing Apoptosis Kit

This kit contains unique formulations of reagents to isolate a highly enriched mitochondrial fraction from cytosol. The procedure is so simple and easy to perform, no ultracentrifugation is required and no toxic chemicals are involved. Cytochrome c is released from mitochondria into the cytosol. It can then be detected by Western blotting using the cytochrome c antibody provided with this kit.

Product	Code No.	Quantity
Cytochrome c ELISA Releasing Apoptosis Assay Kit	JM-K257-100	100 tests

ApoSENSOR™ ADP/ATP Ratio Assay Kit ApoSENSOR™ Cell Viability Assay Kit

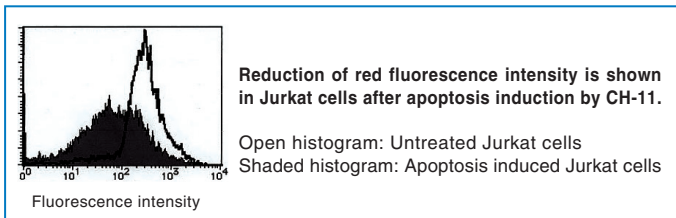
These kits utilize bioluminescent detection of intracellular ATP levels or (ATP and ADP levels). This allows for simultaneous rapid screening of mammalian cells for apoptosis and cell proliferation.



Products	Code No.	Quantity
ApoSENSOR™ ADP/ATP Ratio Assay Kit	BV-K255-13	200 tests
ApoSENSOR™ Cell Viability Assay Kit	BV-K254-13	200 tests
	BV-K254-5	1000 tests

MitoCapture™ Apoptosis Detection Kit

This Kit utilizes MitoCapture™ cationic dye, which has the unique property of being able to differentiate between normal and apoptotic cells. In healthy cells, MitoCapture™ accumulates and aggregates in the mitochondria, giving off a bright red fluorescence. In apoptotic cells, MitoCapture™ is prevented from aggregating in the mitochondria due to the altered mitochondrial membrane potential.



Products	Code No.	Quantity
MitoCapture™ Apoptosis Detection Kit	BV-K250-2	25 tests
	BV-K250-3	100 tests
MitoCapture Incubation Buffer	JM-1065-200	200 mL

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Caspase Activity Detection Kits

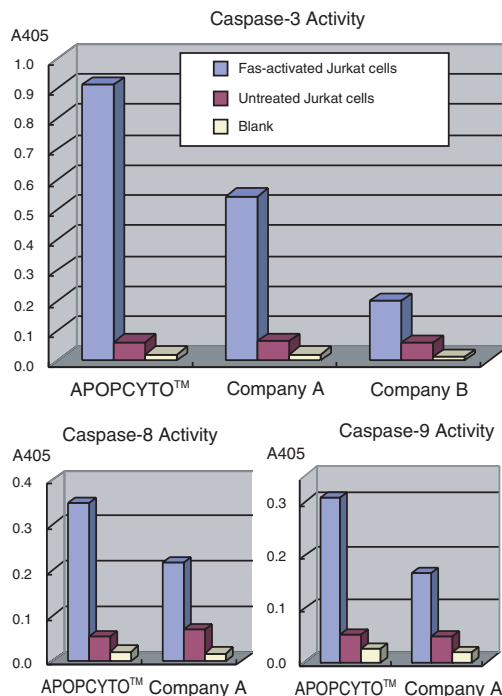
APOPCYTO™ Caspase Colorimetric Assay Kits

APOPCYTO™ Caspase Fluorometric Assay Kits

The APOPCYTO™ Caspase Assay Kits provide superior sensitivity for the detection of caspase-3, caspase-8, or caspase-9 activity in whole cell lysates. The kits are provided in an easy-to-use 96-well format suitable for high throughput screening. Caspase activity is detected colorimetrically (405 nm) or fluorometrically (excitation 380 nm, emission 460 nm).

Products	Code No.	Quantity
APOPCYTO™ Caspase-3 Colorimetric Assay Kit	4800	100 tests
APOPCYTO™ Caspase-8 Colorimetric Assay Kit	4805	100 tests
APOPCYTO™ Caspase-9 Colorimetric Assay Kit	4810	100 tests
APOPCYTO™ Caspase-3 Fluorometric Assay Kit	4815	100 tests
APOPCYTO™ Caspase-8 Fluorometric Assay Kit	4820	100 tests
APOPCYTO™ Caspase-9 Fluorometric Assay Kit	4825	100 tests

Analysis of Caspase Activity



CaspSCREEN™ Flow Cytometric Apoptosis Detection Kit

CaspSCREEN™ Flow Cytometric Apoptosis Detection Kit has been optimized to detect activation of caspases by flow cytometry in living cells. The assay is based on the cleavage of (aspartyl)₂-Rhodamine 110 (D₂R), a reported substrate for members of caspase family proteases. The caspase substrate D₂R is non-fluorescent, however, upon cleavage of the substrate by cellular caspases, the released rhodamine 110 fluoresces upon excitation at 488 nm and emission at 530 nm. Because the D₂R is much more cell-permeable than other fluorometric caspase substrates, activation of caspases can easily be measured in intact cells by flow cytometry.

Products	Code No.	Quantity
CaspSCREEN™ Flow Cytometric Apoptosis Detection Kit	BV-K200-2	25 tests
	BV-K200-3	100 tests

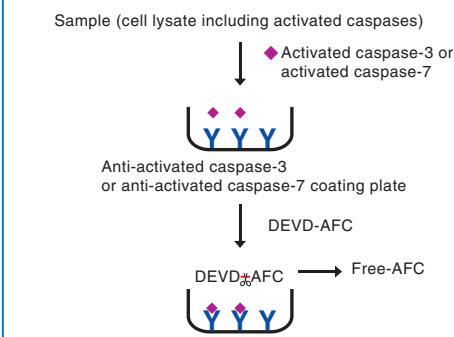
CaspSELECT™ Caspase-3 Immunoassay Kit

CaspSELECT™ Caspase-7 Immunoassay Kit

The CaspSELECT™ Caspase-3, or -7 Immunoassay Kit provides an effective immunosorbent enzyme assay for the specific, quantitative detection of caspase-3 or caspase-7 activity using microtiter plates. The assay captures activated caspase-3 or activated caspase-7 from cell lysates using polyclonal antibodies. Substrate DEVD-AFC is then added, and is cleaved proportionally to the amount of captured activated caspase-3 or activated caspase-7. The cleavage generates free AFC which is then analyzed fluorometrically ($\lambda_{ex}=400$ nm and $\lambda_{em}=505$ nm) using a fluorescence plate reader. The assay ensures absolute specific detection of only caspase-3 or caspase-7. Other known caspases and non-specific proteases are not captured and therefore are not detected.

Products	Code No.	Quantity
CaspSELECT™ Caspase-3 Immunoassay Kit	BV-K163-3	100 tests
CaspSELECT™ Caspase-7 Immunoassay Kit	BV-K167-3	100 tests

Principle of CaspSELECT™ Caspase Immunoassay Kit



For more information and to order go to www.mblintl.com

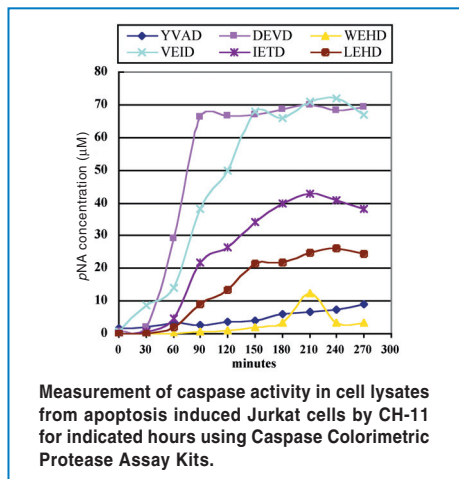
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Caspase Activity Detection Kits

Caspase Colorimetric Protease Assay Kits

Caspase Fluorometric Protease Assay Kits

The Caspase (Colorimetric and Fluorometric) Protease Assay Kits detect the cleavage of substrates peptide pNA or peptide-AFC in cell lysates. In the colorimetric assay, the pNA can be quantified using a spectrophotometer or microtiter plate reader at 405 nm. In the fluorometric assay, the substrate peptide-AFC emits blue light ($\lambda_{max}=400$ nm). Upon cleavage of the substrate by caspases, the free AFC emits a yellow-green fluorescence ($\lambda_{max} = 505$ nm) that can be quantified using a fluorometer or a fluorescence microtiter plate reader.



Products	Code No.	Quantity
Caspase-1 Colorimetric Protease Assay Kit	BV-K111-2	25 tests
	BV-K111-3	100 tests
	BV-K111-13	200 tests
	BV-K111-4	400 tests
Caspase-1 Fluorometric Protease Assay Kit	BV-K110-2	25 tests
	BV-K110-3	100 tests
	BV-K110-13	200 tests
	BV-K110-4	400 tests
Caspase-2 Colorimetric Protease Assay Kit	BV-K117-2	25 tests
	BV-K117-3	100 tests
	BV-K117-13	200 tests
	BV-K117-4	400 tests
Caspase-2 Fluorometric Protease Assay Kit	BV-K116-2	25 tests
	BV-K116-3	100 tests
	BV-K116-13	200 tests
	BV-K116-4	400 tests
Caspase-3 Colorimetric Protease Assay Kit	BV-K106-2	25 tests
	BV-K106-13	200 tests
	BV-K106-4	400 tests
	Caspase-3 Fluorometric Protease Assay Kit	BV-K105-2
BV-K105-13		200 tests
BV-K105-4		400 tests
Caspase-4 Colorimetric Protease Assay Kit		JM-K127-25
	JM-K127-100	100 tests
Caspase-4 Fluorometric Protease Assay Kit	JM-K126-25	25 tests
	JM-K126-100	100 tests
Caspase-5 Colorimetric Protease Assay Kit	BV-K123-2	25 tests
	BV-K123-3	100 tests
	BV-K123-13	200 tests
	BV-K123-4	400 tests
Caspase-5 Fluorometric Protease Assay Kit	BV-K122-2	25 tests
	BV-K122-3	100 tests
	BV-K122-13	200 tests
	BV-K122-4	400 tests

Products	Code No.	Quantity
Caspase-6 Colorimetric Protease Assay Kit	BV-K115-2	25 tests
	BV-K115-3	100 tests
	BV-K115-13	200 tests
	BV-K115-4	400 tests
Caspase-6 Fluorometric Protease Assay Kit	BV-K114-2	25 tests
	BV-K114-3	100 tests
	BV-K114-13	200 tests
	BV-K114-4	400 tests
Caspase-8 Colorimetric Protease Assay Kit	BV-K113-2	25 tests
	BV-K113-13	200 tests
	BV-K113-4	400 tests
	Caspase-8 Fluorometric Protease Assay Kit	BV-K112-2
BV-K112-13		200 tests
BV-K112-4		400 tests
Caspase-9 Colorimetric Protease Assay Kit		BV-K119-2
	BV-K119-13	200 tests
	BV-K119-4	400 tests
	Caspase-9 Fluorometric Protease Assay Kit	BV-K118-2
BV-K118-13		200 tests
BV-K118-4		400 tests
Caspase-10 Colorimetric Protease Assay Kit		BV-K125-2
	BV-K125-3	100 tests
Caspase-10 Fluorometric Protease Assay Kit	BV-K124-2	25 tests
	BV-K124-3	100 tests
Caspase-12 Fluorometric Protease Assay Kit	JM-K139-25	25 tests
	JM-K139-100	100 tests

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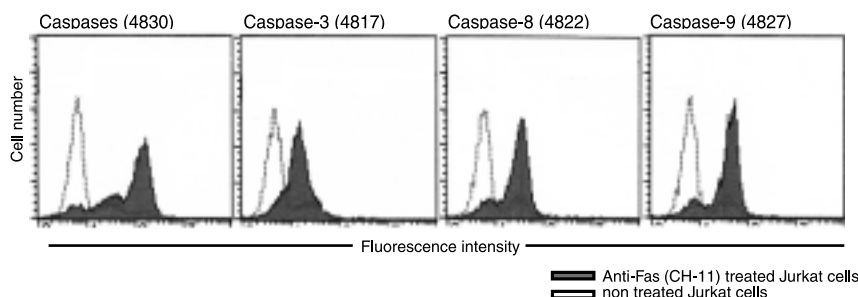
Caspase Activity Detection Kits

APOPCYTO™ Intracellular Caspase Activity Detection Kits

The APOPCYTO™ Intracellular Caspase Activity Detection Kits are designed to detect caspase activity in living cells using a non-toxic, cell permeable, fluorescent substrate. The kit contains all reagents necessary for the assay, including a control caspase inhibitor, washing buffer, and labeled substrate. Activated caspases can be detected easily and quickly in individual cells by fluorescence microscopy or flow cytometry (excitation 485 nm, emission 535 nm).

Products	Code No.	Quantity
APOPCYTO™ Intracellular Caspases Activity detection Kit	4830	100 tests
APOPCYTO™ Intracellular Caspase-3 Activity detection Kit	4817	100 tests
APOPCYTO™ Intracellular Caspase-8 Activity detection Kit	4822	100 tests
APOPCYTO™ Intracellular Caspase-9 Activity detection Kit	4827	100 tests

Detection of intracellular caspase activity in apoptotic Jurkat cells using APOPCYTO™ Intracellular Caspase Activity



CaspGLOW™ (Fluorescein or Red) Active Caspase Staining Kits

CaspGLOW™ Active Caspase Staining Kits provide a convenient and sensitive method for detecting *in situ* activated caspases in living cells. This assay utilizes a caspase family inhibitor conjugated to FITC (FITC-peptide-FMK) or sulfo-rhodamine (Red-peptide-FMK) as the fluorescent *in situ* marker. FITC-peptide-FMK and Red-peptide-FMK are cell permeable, nontoxic, and irreversibly bind to activated caspases in apoptotic cells. The fluorescent signal can be detected by fluorescence microscopy, flow cytometry, or a fluorescence plate reader. We have 9 different kits that vary by fluorochrome* and peptide sequence**.

* FITC or sulfo-rhodamine

** VDVAD or DEVD or IETD or LEHD or VAD

Products	Code No.	Quantity
CaspGLOW™ Fluorescein Active Caspase Staining Kit	JM-K180-25	25 tests
	JM-K180-100	100 tests
CaspGLOW™ Red Active Caspase Staining Kit	JM-K190-25	25 tests
	JM-K190-100	100 tests
CaspGLOW™ Fluorescein Active Caspase-2 Staining Kit	JM-K182-25	25 tests
	JM-K182-100	100 tests
CaspGLOW™ Fluorescein Active Caspase-3 Staining Kit	JM-K183-25	25 tests
	JM-K183-100	100 tests
CaspGLOW™ Red Active Caspase-3 Staining Kit	JM-K193-25	25 tests
	JM-K193-100	100 tests
CaspGLOW™ Fluorescein Active Caspase-8 Staining Kit	JM-K188-25	25 tests
	JM-K188-100	100 tests
CaspGLOW™ Red Active Caspase-8 Staining Kit	JM-K198-25	25 tests
	JM-K198-100	100 tests
CaspGLOW™ Fluorescein Active Caspase-9 Staining Kit	JM-K189-25	25 tests
	JM-K189-100	100 tests
CaspGLOW™ Red Active Caspase-9 Staining Kit	JM-K199-25	25 tests
	JM-K199-100	100 tests

Caspase Assay Related Products

Products	Code No.	Quantity
CaspGLOW™ Wash Buffer	JM-1266-100	100 mL
Cell Lysis Buffer (for Caspase Assay)	BV-1067-3	100 mL
	BV-1067-4	400 mL
Dilution Buffer (for Caspase Assay)	BV-1066-3	100 mL
	BV-1066-500	500 mL
2x Reaction Buffer (for Caspase Assay)	BV-1068-11	20 mL
	BV-1068-80	80 mL

Products	Code No.	Quantity
Jurkat Cytosolic Extract, Uninduced (for Caspase Assay)	BV-1106-4	0.4 mg
	BV-1106-5	1 mg
Jurkat Cytosolic Extract, Induced (for Caspase Assay)	BV-1107-4	0.4 mg
	BV-1107-5	1 mg

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Caspase Activity Detection Kits

Caspase Inhibitor Screening Kits

Inhibition of caspases can delay apoptosis, implicating a potential role in drug screening efforts. The Caspase Inhibitor Screening Kits provide an effective means for screening caspase inhibitors using fluorometric methods. Each kit contains active caspase enzyme and a synthetic AFC-labeled peptide substrate. Active caspase cleaves the substrate to release free AFC which is then quantified by fluorometry. Compounds to be screened are added to the reaction and the level of inhibition of caspase activity is determined by comparing the fluorescence intensity of samples with and without the inhibitors. The assay is simple, straightforward, and can be performed directly in microtiter plates.

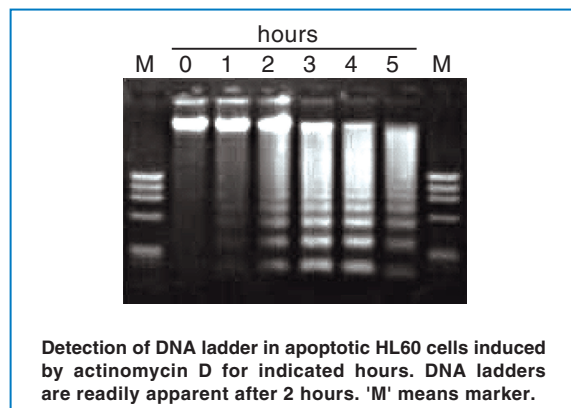
Products	Code No.	Quantity
Caspase-1 Inhibitor Screening Kit	JM-K151-100	100 tests
Caspase-2 Inhibitor Screening Kit	JM-K152-100	100 tests
Caspase-3 Inhibitor Screening Kit	JM-K153-100	100 tests
Caspase-4 Inhibitor Screening Kit	JM-K154-100	100 tests
Caspase-5 Inhibitor Screening Kit	JM-K155-100	100 tests
Caspase-6 Inhibitor Screening Kit	JM-K156-100	100 tests
Caspase-7 Inhibitor Screening Kit	JM-K157-100	100 tests
Caspase-8 Inhibitor Screening Kit	JM-K158-100	100 tests
Caspase-9 Inhibitor Screening Kit	JM-K159-100	100 tests
Caspase-10 Inhibitor Screening Kit	JM-K160-100	100 tests

DNA Ladder Detection Kits

MEBCYTO™ Apoptosis Ladder Detection Kit Apoptotic DNA Ladder Isolation Kit Quick Apoptotic DNA Ladder Detection Kit Enhanced Apoptotic DNA Ladder Detection Kit

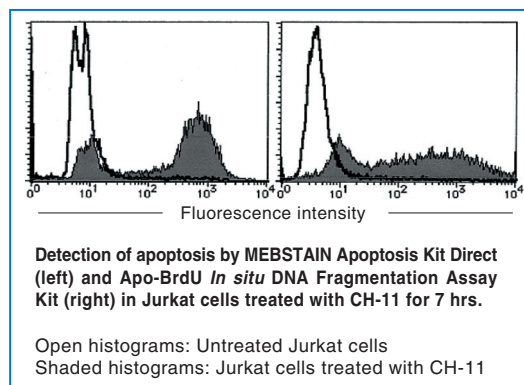
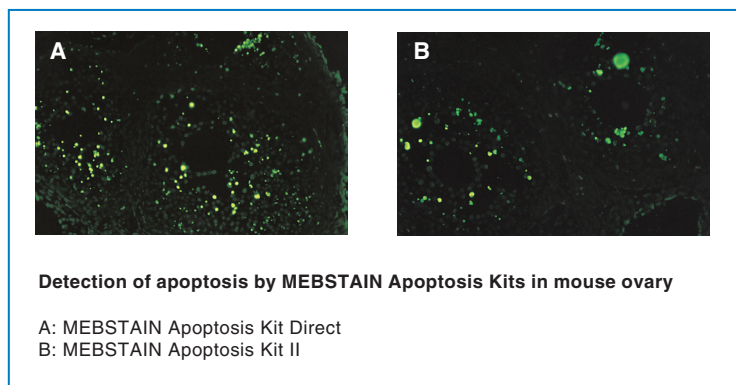
MBL carries several kits for the isolation and detection of DNA fragmentation in apoptotic cells and tissues, so scientists can select the optimum kit for their research needs. The MEBCYTO™ Apoptosis Ladder Detection Kit provides an economical method to rapidly and efficiently isolate DNA fragments from multiple samples. The Apoptotic DNA Ladder Isolation Kit selectively isolates DNA ladders without interference of regular genomic DNA, which significantly improves detection sensitivity. This kit can detect apoptotic DNA ladder from both tissues and cells that contain as little as 5% or less apoptotic cell population. The Quick Apoptotic DNA Ladder Detection Kit provides a fast, easy way to isolate DNA fragments in a single tube, without extraction steps or columns, in less than 90 minutes. Finally, the Enhanced Apoptotic DNA Ladder Kit utilizes a unique dye that is 5-10 times more sensitive than ethidium bromide for the ultimate assay sensitivity.

Product	Code No.	Quantity
MEBCYTO™ Apoptosis Ladder Detection Kit	GS-J0103	30 tests
Apoptotic DNA Ladder Isolation Kit	JM-K170-50	50 tests
Quick Apoptotic DNA Ladder Detection Kit	BV-K120-6	50 tests
Enhanced Apoptotic DNA Ladder Detection Kit	JM-K130-50	50 tests



TUNEL-Based Detection Kits

The TUNEL-based detection kits utilize terminal deoxynucleotidyl transferase (TdT) to induce incorporation of labeled dUTP at the free 3'-OH ends of fragmented DNA. MBL provides several different choices for TUNEL assays to meet your research needs. The ApoDIRECT kit labels DNA with fluorescein-dUTP for detection of DNA fragmentation by both flow cytometry and histochemistry. The MEBSTAIN™ assay kits use proprietary buffers for improved sensitivity and lower backgrounds than traditional TUNEL protocols. The MEBSTAIN™ Direct kit includes fluorescein-dUTP to directly label DNA for visualization of DNA fragments at the single cell level, while the MEBSTAIN Apoptosis Kit II labels cells with biotin-dUTP followed by avidin-FITC. The Apo-BrdU In Situ DNA Fragmentation Kit labels DNA with BrdU followed by detection with FITC-conjugated anti-BrdU antibody. A similar kit, the Apo-BrdU Red kit substitutes TRITC-labeled antibody, to permit staining of GFP or Azami-Green-transfected cells. Finally, the ApoBrdU-IHC DNA Fragmentation Kit uses BrdU incorporation, biotinylated anti-BrdU antibody, and HRP-conjugated streptavidin to permit colorimetric staining of frozen or paraffin-embedded tissue samples.



Products	Code No.	Quantity
MEBSTAIN™ Apoptosis Kit Direct	8445	FCM: 66 tests / IHC: 40 tests
MEBSTAIN™ Apoptosis Kit II	8441	FCM: 66 tests / IHC: 40 tests
Apo-BrdU In Situ DNA Fragmentation Assay Kit	JM-K401-60	60 assays
Apo-BrdU Red DNA Fragmentation Assay Kit	JM-K404-60	60 assays
ApoDIRECT In Situ DNA Fragmentation Assay Kit	JM-K402-50	50 assays
ApoBrdU-IHC DNA Fragmentation Kit	JM-K403-50	50 assays

Additional Apoptosis-Related

Products	Code No.	Quantity
sFas ELISA Kit	5251	96 wells
sFas Ligand ELISA Kit	5255	96 wells
Live/Dead Double Staining Kit	BV-K501-3	100 tests
Quick Cell Proliferation Assay Kit	BV-K301-10	500 tests
	BV-K301-2500	2500 tests
Apoptotic Cell Isolation Kit	JM-K258-30	30 tests
Magnetic Separator	JM-1999-1	1 each
Mitochondria/Cytosol Fractionation Kit	JM-K256-100	100 tests
Nuclear/Cytosol Fractionation Kit	JM-K266-100	100 tests

Products	Code No.	Quantity
Cytosol/Particulate Rapid Separation Kit	JM-K267-50	50 tests
Membrane Protein Extraction Kit	JM-K268-50	50 tests
Mammalian Cell Extraction Kit	JM-K269-500	500 tests
FractionPREP Cell Fractionation Kit	JM-K270-50	50 tests
Mitochondrial DNA Isolation Kit	JM-K280-50	50 tests
Genomic DNA Isolation Kit	JM-K281-50	50 tests
ApoGSH™ Glutathione Detection Kit	JM-K251-100	100 tests
Human TWEAK ELISA Development Kit	JM-K4360-1000	1000 tests

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