Apoptosis Detection Kits

MICROTECH

LA SCELTA LOGICA

PROMOTION

Apoptosis Detection Kits

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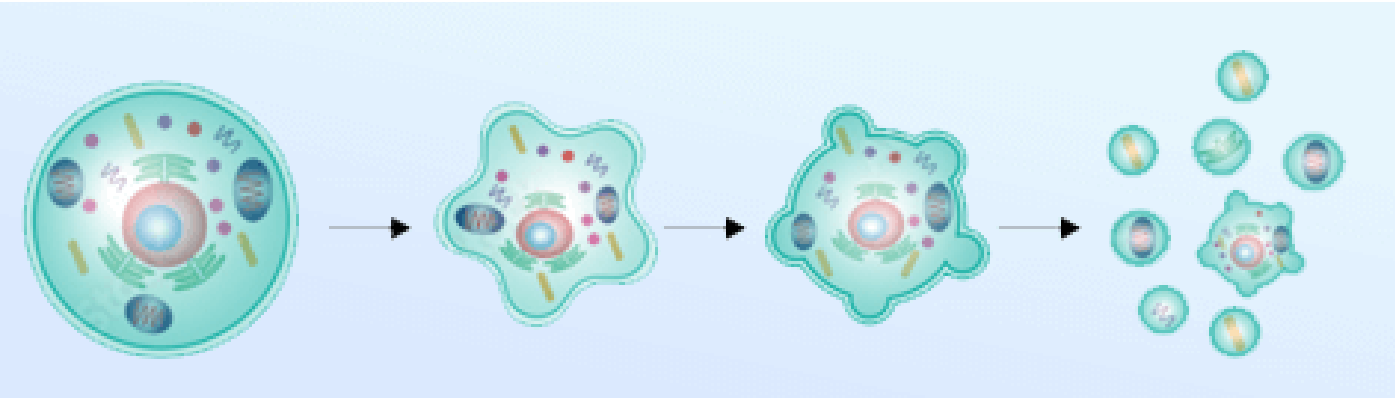
Limited-Time Promotion

Cell Apoptosis

Apoptosis: A Key Process in Programmed Cell Death, a form of programmed cell death (PCD), is a genetically controlled and orderla form of programmed cell death (PCD), is a genetically regulated process essential for cell growth, development, and renewal. Key events include phosphatidylserine (PS) externalization, mitochondrial membrane potential (ΔΨm) changes, caspase activation, and DNA fragmentation.

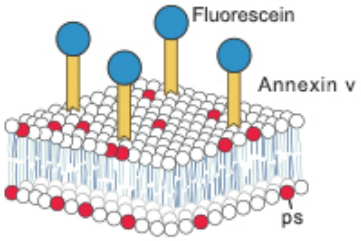
This orderly self-destruction occurs under physiological or pathological conditions, helping organisms adapt to their environment. Proper apoptosis is critical for maintaining cellular balance, while dysregulation can lead to diseases such as cancer and neurodegenerative disorders.



Elabscience® Apoptosis Detection Kits

Apoptosis detection is a critical tool for analyzing cell fate and disease mechanisms. Elabscience® offers comprehensive apoptosis detection kits covering multiple key apoptotic pathways, enabling precise identification of essential steps in the cell death process.

Annexin V Assay Kits

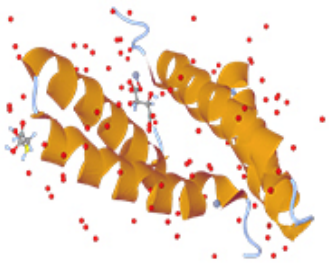


- 15 fluorochromes paired with 3 nuclear dyes
- Complete the experiment in just 15 minutes
- Distinct cell populations, effective even with high cell density

TUNEL Assay Kits

- Free of dimethyl arsenic, safe and non-toxic
- Wide variety, compatible with all detection equipment
- High sensitivity, comparable to leading international brands

Caspase Assay Kits



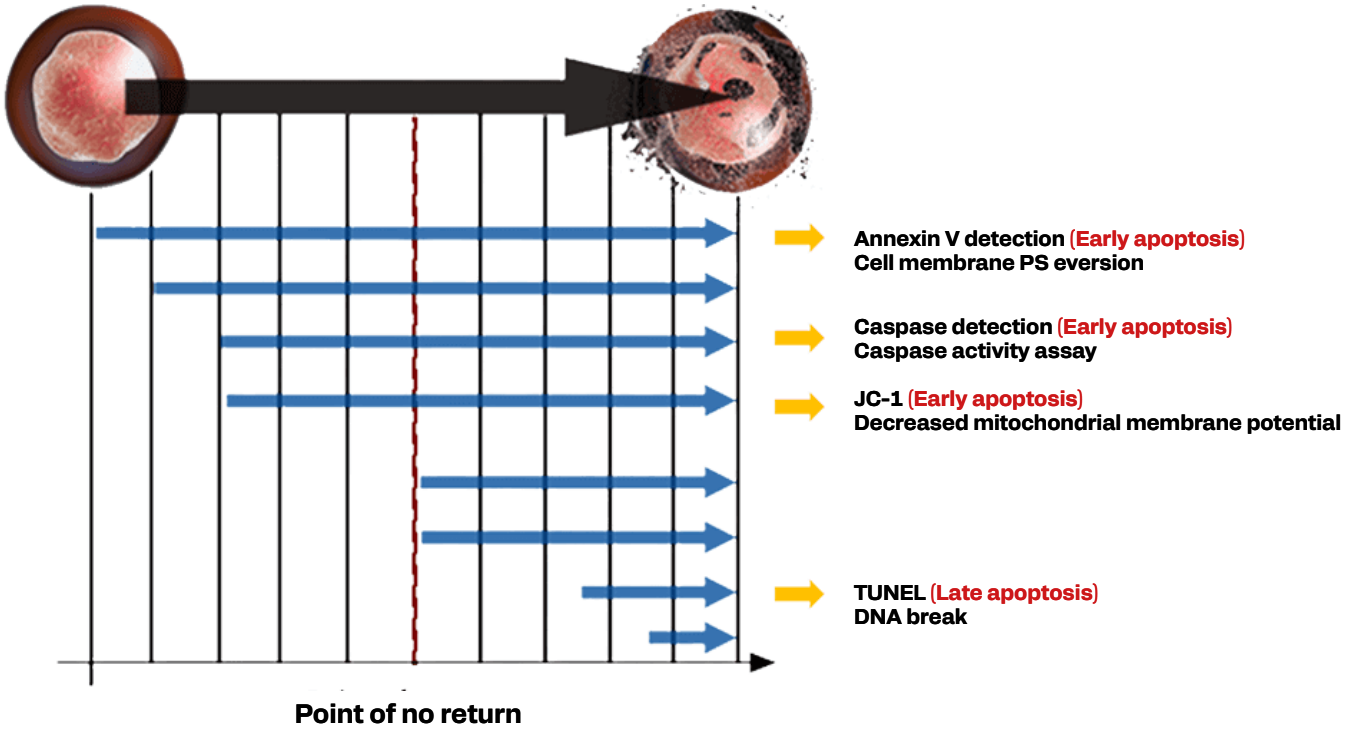
- Comprehensive panel, detects 8 types of Caspases
- Wide variety, available in both fluorescence and spectrophotometry methods
- Simple operation, delivering accurate experimental results

Mitochondrial Assay Kits

- Early apoptosis detection
- Simple experimental procedure
- Mitochondrial localization and function assessment

Apoptopic process events

1. The cell membrane loses its symmetry
2. Activation of apoptosis-related proteins such as Bcl-2
3. Caspase Activation
4. Mitochondrial membrane potential collapses, cytometers C is released
5. Increase in sub-G1 cell population
6. Cell nuclear shrinkage
7. DNA fragmentation
8. Cell membrane budding to form apoptotic bodies



Schematic Diagram of Apoptosis Process Features

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Annexin V Assay Kits and Related Reagents

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PI

Fluorochrome	Product Name
FITC	Annexin V-FITC/PI Apoptosis Kit
Elab Fluor® 647	Annexin V-Elab Fluor® 647/PI Apoptosis Kit
APC	Annexin V-APC/PI Apoptosis Kit
EGFP	Annexin V-EGFP/PI Apoptosis Kit
Cyanine5	Annexin V-Cyanine5/PI Apoptosis Kit
APC/Cyanine7	Annexin V-APC/Cyanine7/PI Apoptosis Kit
Elab Fluor® Violet 450	Annexin V-Elab Fluor® Violet 450/PI Apoptosis Kit
Elab Fluor® Violet 500	Annexin V-Elab Fluor® Violet 500/PI Apoptosis Kit
Elab Fluor® 488	Annexin V-Elab Fluor® 488/PI Apoptosis Kit
Elab Fluor® Red 780	Annexin V-Elab Fluor® Red 780/PI Apoptosis Kit

7-AAD

Fluorochrome	Product Name
FITC	Annexin V-FITC/7-AAD Apoptosis Kit
Elab Fluor® 647	Annexin V-Elab Fluor® 647/7-AAD Apoptosis Kit
PE	Annexin V-PE/7-AAD Apoptosis Kit
APC	Annexin V-APC/7-AAD Apoptosis Kit
EGFP	Annexin V-EGFP/7-AAD Apoptosis Kit
Cyanine5	Annexin V-Cyanine5/7-AAD Apoptosis Kit
APC/Cyanine7	Annexin V-PE/Cyanine7/7-AAD Apoptosis Kit
Elab Fluor® Violet 450	Annexin V-Elab Fluor® Violet 450/7-AAD Apoptosis Kit
Elab Fluor® Violet 500	Annexin V-Elab Fluor® Violet 500/7-AAD Apoptosis Kit
Elab Fluor® 488	Annexin V-Elab Fluor® 488/7-AAD Apoptosis Kit
Elab Fluor® Red 780	Annexin V-Elab Fluor® Red 780/7-AAD Apoptosis Kit

DAPI

Fluorochrome	Product Name
FITC	Annexin V-FITC/DAPI Apoptosis Kit
Elab Fluor® 647	Annexin V-Elab Fluor® 647/DAPI Apoptosis Kit
PE	Annexin V-PE/DAPI Apoptosis Kit
APC	Annexin V-APC/DAPI Apoptosis Kit
EGFP	Annexin V-EGFP/DAPI Apoptosis Kit
Cyanine5	Annexin V-Cyanine5/DAPI Apoptosis Kit
PE/Cyanine5	Annexin V-PE/Cyanine5/DAPI Apoptosis Kit
PE/Cyanine5.5	Annexin V-PE/Cyanine5.5/DAPI Apoptosis Kit
PE/Cyanine7	Annexin V-PE/Cyanine7/DAPI Apoptosis Kit
APC/Cyanine7	Annexin V-APC/Cyanine7/DAPI Apoptosis Kit
PE/Elab Fluor® 594	Annexin V-PE/Elab Fluor® 594/DAPI Apoptosis Kit
Elab Fluor® 488	Annexin V-Elab Fluor® 488/DAPI Apoptosis Kit
Elab Fluor® Red 780	Annexin V-Elab Fluor® Red 780/DAPI Apoptosis Kit

Related Reagents

Product Name
Recombinant Human ANXA5/Annexin V/Annexin A5 Protein(His tag)
ANXA5 Polyclonal Antibody
Annexin V Reagent
Annexin V Binding Buffer (10×)
Annexin V Lyophilized Powder

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TUNEL Assay Kits

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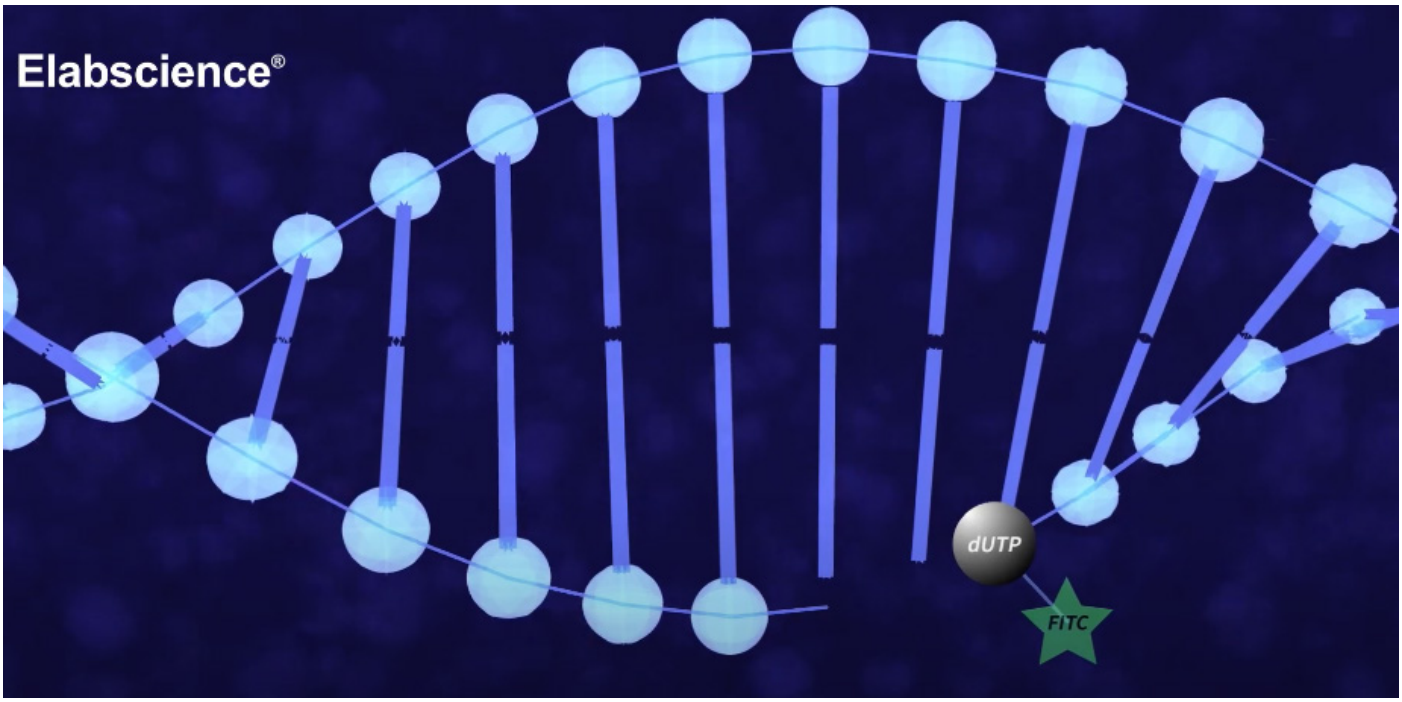
An important feature of the late stage of apoptosis is DNA fragmentation, and the exposed 3'-OH of the fragmented DNA can be catalyzed by terminal deoxynucleotidyl transferase (TdT) to bind to fluorochrome-labeled dUTP, which can be visualized by fluorescence microscopy or flow cytometry. This method is also known as One-step method (higher detection sensitivity, more intuitive results, and easier experimental results to be published in SCI articles).

If the exposed 3'-OH groups are labeled with biotin-labeled dUTP (Biotin-dUTP) under the catalysis of TdT, and then combined with HRP-labeled Streptavidin (Streptavidin-HRP), the result can be visualized by DAB color development under the catalysis of HRP, apoptotic cells can then be detected by an ordinary optical microscope.

Elabscience® developed the TUNEL series of apoptosis kits, including the **One-step TUNEL In Situ Apoptosis Kit, One-step TUNEL Flow Cytometry Apoptosis Kit, and TUNEL In Situ Apoptosis Kit (HRP-DAB Method)**. These kits can be used for apoptosis detection in tissue samples (paraffin-embedded, frozen sections) and cell samples (cell smears, cell culture films, suspension cells, adherent cells). Our TUNEL assay kits have high sensitivity, quick and easy operation, and can better assist in apoptosis research related to cell function and the R&D of related drugs.



One-step TUNEL In Situ Apoptosis Kits

Elabscience® One-step TUNEL In Situ Apoptosis Kits are suitable for in situ apoptosis detection of tissue samples (paraffin-embedded, frozen sections) and cell samples (cell smears, slide films), and the detection results can be directly observed by fluorescence microscopy. Compared with the DAB colorimetric method, the experimental results of fluorescent TUNEL are fluorescent images, which are more intuitive and easier to publish in SCI articles.

Features of Elabscience® One-step TUNEL In Situ Apoptosis Kits

Multiple Options
A variety of fluorescent dyes (FITC/ Elab Fluor® 488/ Elab Fluor® 594/ Elab Fluor® 647/ Elab Fluor® 555) kits are available.

Easy to Operate
One-step dyeing, saving time and effort.

Safe and Non-toxic
No dimethyl arsenate, non-toxic and harmless to people and the environment

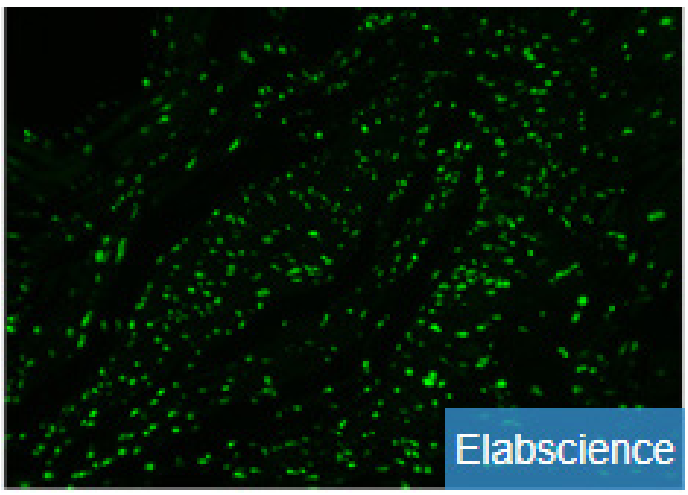
Cost-effective
The key components are self-developed with more stable quality, and more cost-effective price

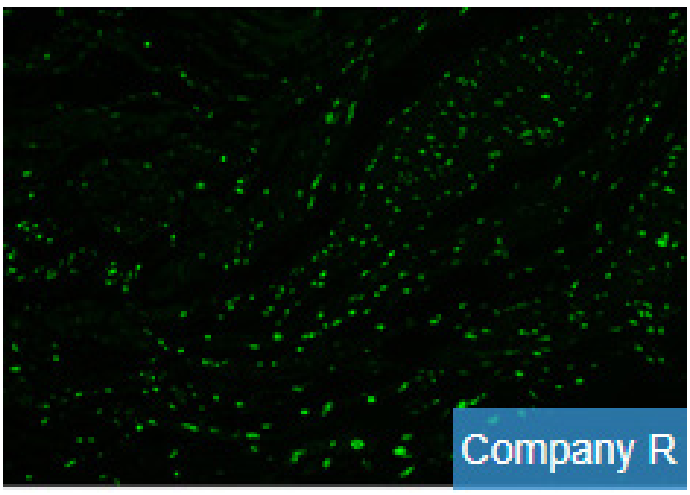
Wide Range of Applications
Suitable for a variety of tissue samples (paraffin sections, frozen sections) and cell samples (cell slides)

Elabscience® One-step TUNEL In Situ Apoptosis Kits

Product Name	Dye	Excitation/emission wavelength	Size
One-step TUNEL In Situ Apoptosis Kit (Green, FITC)	FITC, DAPI	FITC: 495/525nm DAPI: 350/470nm	20/50/100 Assays
One-step TUNEL In Situ Apoptosis Kit (Green, Elab Fluor® 488)	Elab Fluor® 488, DAPI	Elab Fluor® 488: 495/519nm DAPI: 350/470nm	20/50/100 Assays
One-step TUNEL In Situ Apoptosis Kit (Red, Elab Fluor® 594)	Elab Fluor® 594, DAPI	Elab Fluor® 594: 590/617nm DAPI: 350/470nm	20/50/100 Assays
One-step TUNEL In Situ Apoptosis Kit (Red, Elab Fluor® 647)	Elab Fluor® 647, DAPI	Elab Fluor® 647: 650/665nm DAPI: 350/470nm	20/50/100 Assays
One-step TUNEL In Situ Apoptosis Kit (Red, Elab Fluor® 555)	Elab Fluor® 555, DAPI	Elab Fluor® 555: 555/565nm DAPI: 350/470nm	20/100 Assays

Comparative Results





Comparison and display of green fluorescence results between R company and Elabscience® Illumination value: 10, exposure time: 100 ms

One-step TUNEL Flow Cytometry Apoptosis Kits

Elabscience® One-step TUNEL Flow Cytometry Apoptosis Kit is a highly sensitive and quick and easy detection product for apoptosis. This kit is suitable for apoptosis detection of suspension cells and adherent cells, and the detection results can be analyzed by flow cytometry.

Features of Elabscience® One-step TUNEL Flow Cytometry Apoptosis Kits

Better detection scheme

Optimized fluorescent labeling solution, more suitable for flow cytometry detection schemes.

Easy to Operate

One-step dyeing, saving time and effort

Wide Range of Applications

Suitable for a variety of suspension cells and adherent cultured cells.

Multiple Options

FITC/Elab Fluor® 488/Elab Fluor® 594/Elab Fluor® Violet 450/Elab Fluor® 647/Elab Fluor® 555, a variety of fluorescence channels are available

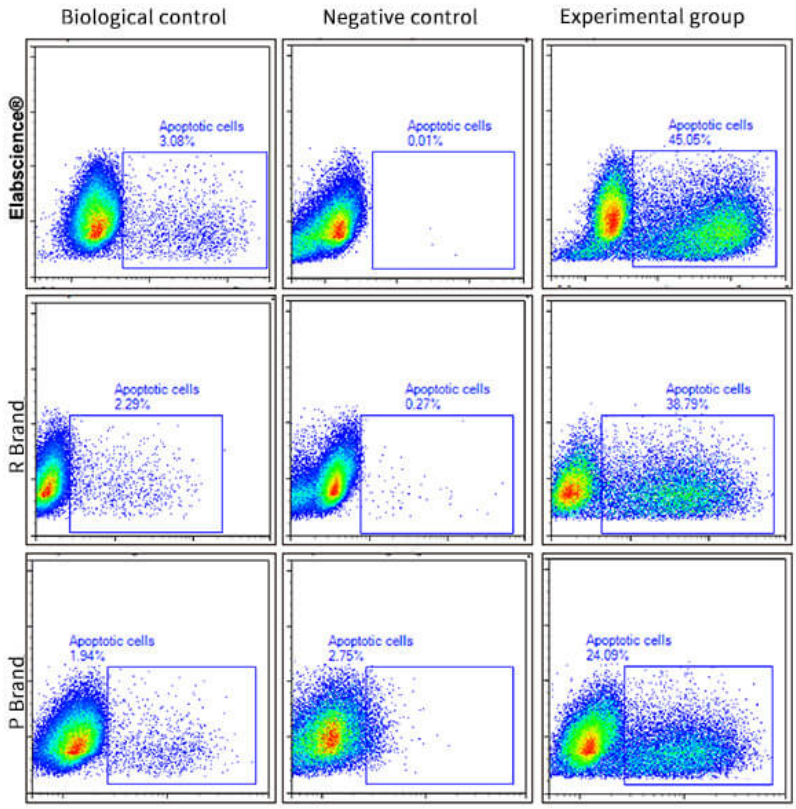
Cost-effective

The kit contains fixed permeabilization fluid, no need to purchase additional reagents

Elabscience® One-step TUNEL Flow Cytometry Apoptosis Kit

Product Name	Fluorochromes	Excitation/emission wavelength	Size
One-step TUNEL Flow Cytometry Apoptosis Kit (Green, FITC)	FITC	495/525nm	20/100 Assays
One-step TUNEL Flow Cytometry Apoptosis Kit (Green, Elab Fluor® 488)	Elab Fluor® 488	495/519nm	20/100 Assays
One-step TUNEL Flow Cytometry Apoptosis Kit (Red, Elab Fluor® 594)	Elab Fluor® 594	590/617nm	20/100 Assays
One-step TUNEL Flow Cytometry Apoptosis Kit (Blue, Elab Fluor® Violet 450)	Elab Fluor® Violet 450	410/450nm	20/100 Assays
One-step TUNEL Flow Cytometry Apoptosis Kit (Red, Elab Fluor® 647)	Elab Fluor® 647	650/665nm	20/100 Assays
One-step TUNEL Flow Cytometry Apoptosis Kit (Red, Elab Fluor® 555)	Elab Fluor® 555	555/565nm	20/100 Assays

Comparative Results



Biological control

Jurkat cells cultured without camptothecin, labeled with working solution, and TdT enzyme added

Negative control

Jurkat cells cultured with 5μM camptothecin for 4h, labeled with working solution, without TdT enzyme

Experimental group

Jurkat cells cultured with 5 μM camptothecin for 4h, labeled with working solution, and TdT enzyme added

TUNEL In Situ Apoptosis Kit (HRP-DAB Method)

Elabscience® TUNEL In Situ Apoptosis Kit (HRP-DAB Method) is a highly sensitive product that can detect apoptosis quickly and easily. This kit is suitable for tissue samples (paraffin sections, frozen sections). After biotin labeling and subsequent DAB color development, apoptosis can be observed with an ordinary optical microscope.

Features of Elabscience® TUNEL In Situ Apoptosis Kit (HRP-DAB Method)

High sensitivity

Very low background staining, strong positive staining and apoptosis can be detected at the single-cell level

Quick and easy

It only takes about 2~3 h to complete the staining

Wide range of applications

Suitable for a variety of tissue samples (paraffin sections, frozen sections)

Good specificity

It is generally easier to label apoptotic cells than necrotic cells in TUNEL assays

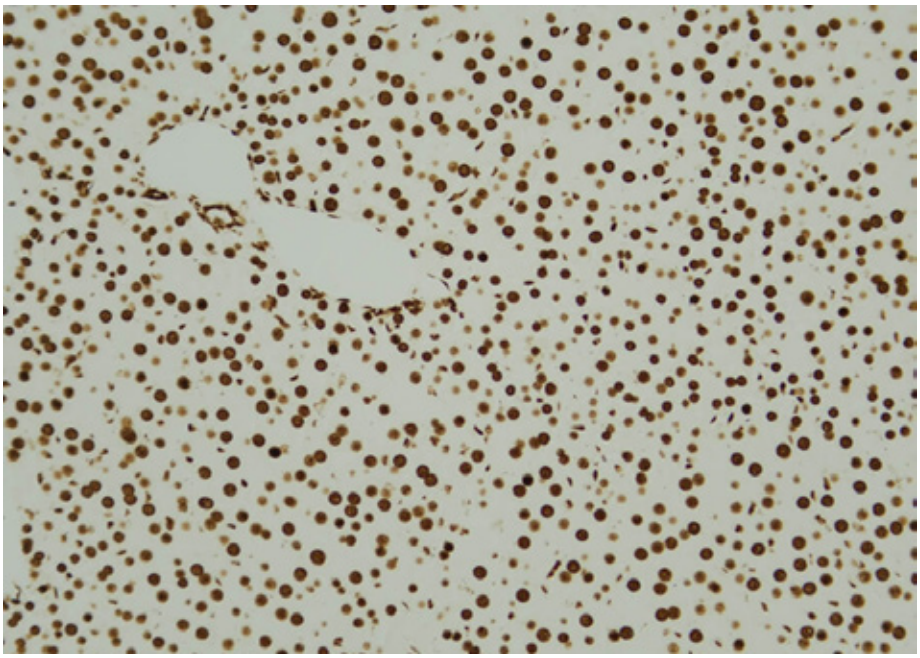
Safe and non-toxic

No dimethyl arsenate, non-toxic and harmless to people and the environment

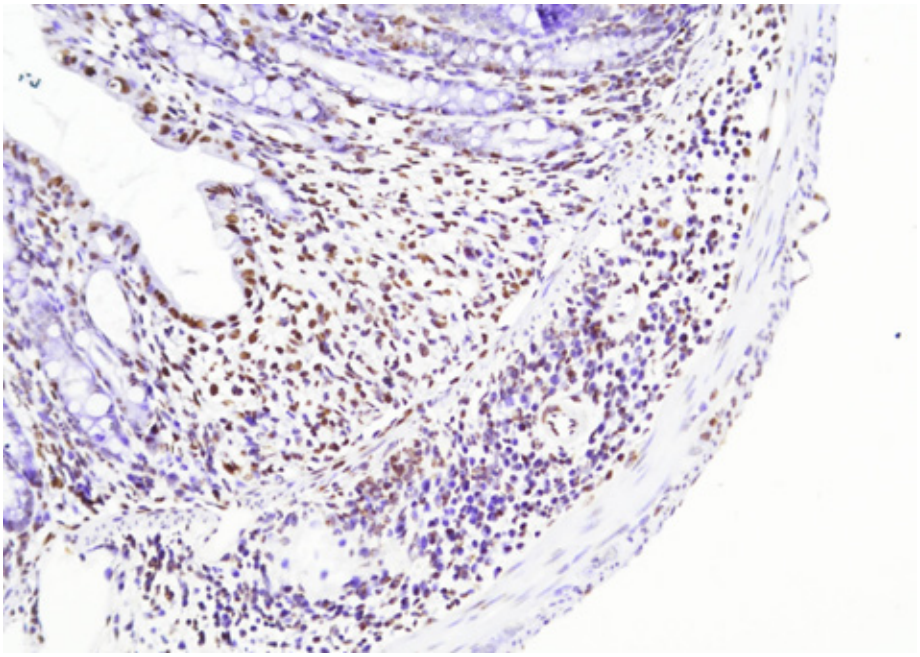
Elabscience® TUNEL In Situ Apoptosis Kit (HRP-DAB Method)

Cat.No.	Product Name	Size
E-CK-A331	TUNEL In Situ Apoptosis Kit (HRP-DAB Method)	20/50/100 Assays

Results of TUNEL In Situ Apoptosis Kit (HRP-DAB Method)



Mouse Liver Tissue
Incubate with Dnase I for 10 min



Mouse Colon Tissue
Incubate with Dnase I for 10 min

PROMOTION

Caspase

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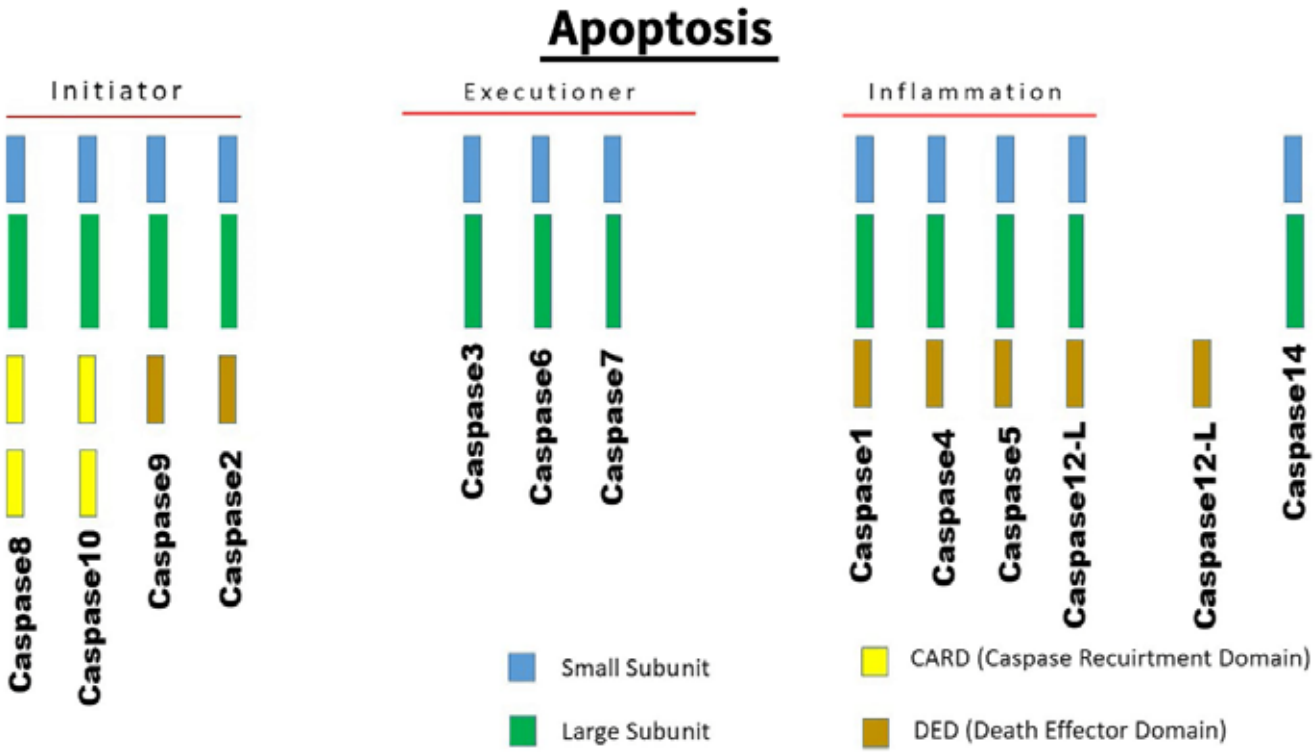
Limited-Time Promotion

Caspase, cysteinyl aspartate-specific proteinase, is a group of proteases present in the cytoplasm with similar structures. They exhibit high homology and structural similarity, capable of specifically cleaving peptide bonds at aspartate residues in target proteins. Caspases are closely associated with apoptosis (pyroptosis) in eukaryotic cells and participate in the regulation of cell growth, differentiation, and apoptosis.



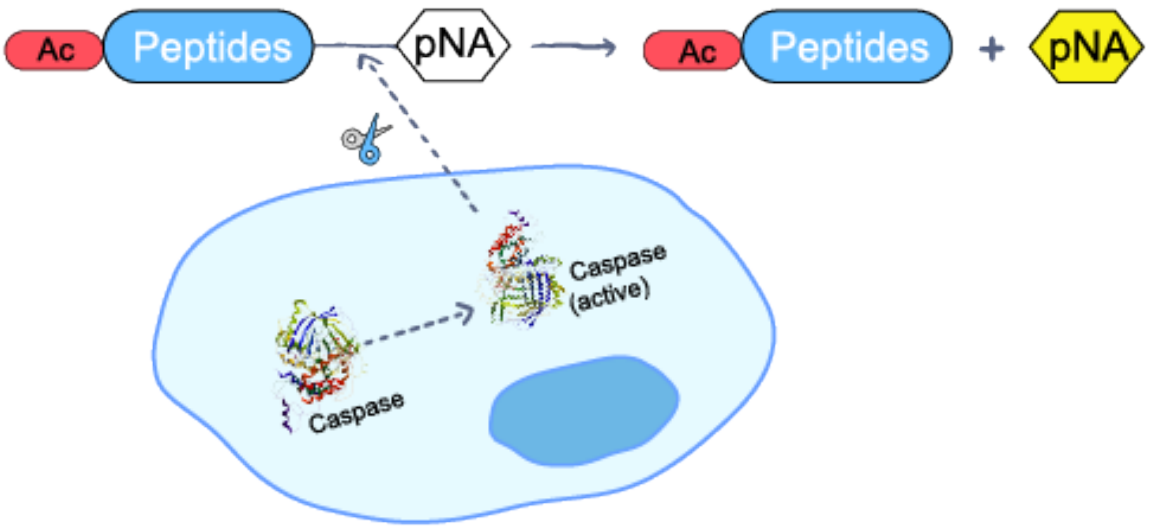
Elabscience®Caspase assay kits, for apoptosis/pyroptosis detection, high specificity, high sensitivity, simple and fast operation, excellent quality,can meet a wide range of your needs.

Detection

Colorimetric Method

Principle of Caspase Assay Kit (Colorimetric Method)

Caspase-specific peptide enzymes are linked to the yellow chromophore pNA (p-nitroanilide) as a substrate.Upon activation of Caspase, the enzyme cleaves the substrate, releasing the yellow chromophore. The absorbance of the released pNA can be measured using a spectrophotometer or enzyme reader at wavelengths around 405 nm or 400 nm, as pNA exhibits strong absorbance in this range.



Advantages

Multiple Choices

Provide a variety of Caspase assay kits to meet the different needs of customers

Cost-effective

The key components are developed in-house with reliable quality and more cost-effective price

Simple Operation

The composition of the reagent was optimized and the experimental operation was more time saving

Wide Applications

The enzyme activity in samples can be detected quantitatively, and these kits is suitable for a variety of cells

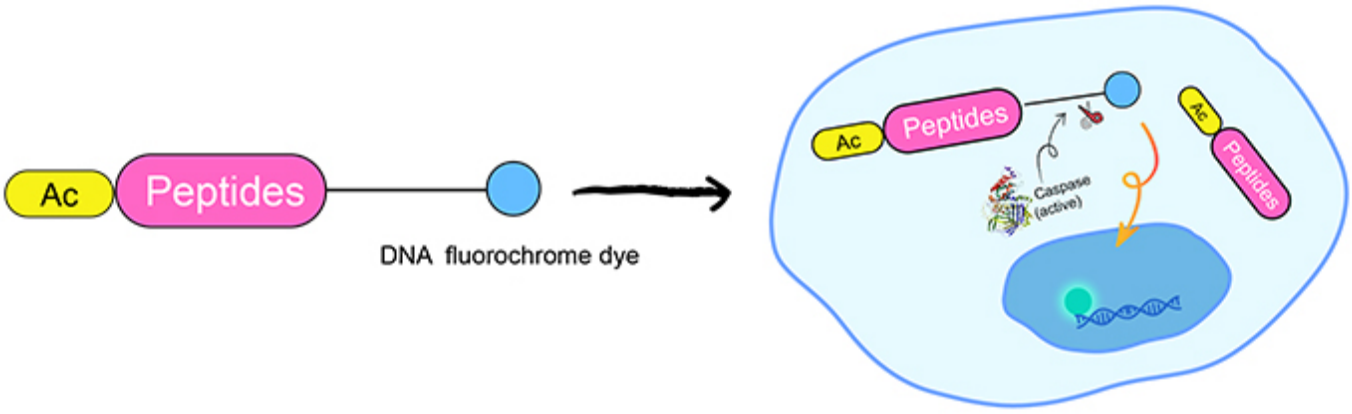
Caspase Assay Kits Colorimetric Method

Product Name	Size	Application
Caspase 1 Activity Assay Kit (Colorimetric Method)	20/100 Assays	Cell Pyroptosis
Caspase 2 Activity Assay Kit (Colorimetric Method)	20/100 Assays	Apoptosis Detection
Caspase 3/7 Activity Assay Kit (Colorimetric Method)	20/100 Assays	Apoptosis Detection
Caspase 4 Activity Assay Kit (Colorimetric Method)	20/100 Assays	Cell Pyroptosis
Caspase 6 Activity Assay Kit (Colorimetric Method)	20/100 Assays	Apoptosis Detection
Caspase 8 Activity Assay Kit (Colorimetric Method)	20/100 Assays	Apoptosis Detection
Caspase 9 Activity Assay Kit (Colorimetric Method)	20/100 Assays	Apoptosis Detection

Fluorescence Method

Principle of Caspase Assay Kit (Fluorescence Method)

Caspase-specific peptides are conjugated to high-affinity DNA fluorochrome as substrates. These substrates can penetrate the cell membrane and enter the cytoplasm. The substrates themselves are non-fluorescent and exhibit charge repulsion with DNA. Upon activation of Caspase, the enzyme cleaves the substrate, releasing the high-affinity DNA fluorochrome. This fluorochrome binds to DNA, resulting in strong fluorescence. This method allows for the detection of Caspase activity and observation of nuclear morphological changes during the process of apoptosis.



Advantages

Easy to operate

One-step dyeing, saving time and effort

Safe and non-toxic

Low cytotoxicity and did not affect the apoptotic process of cells

Live-cell observation

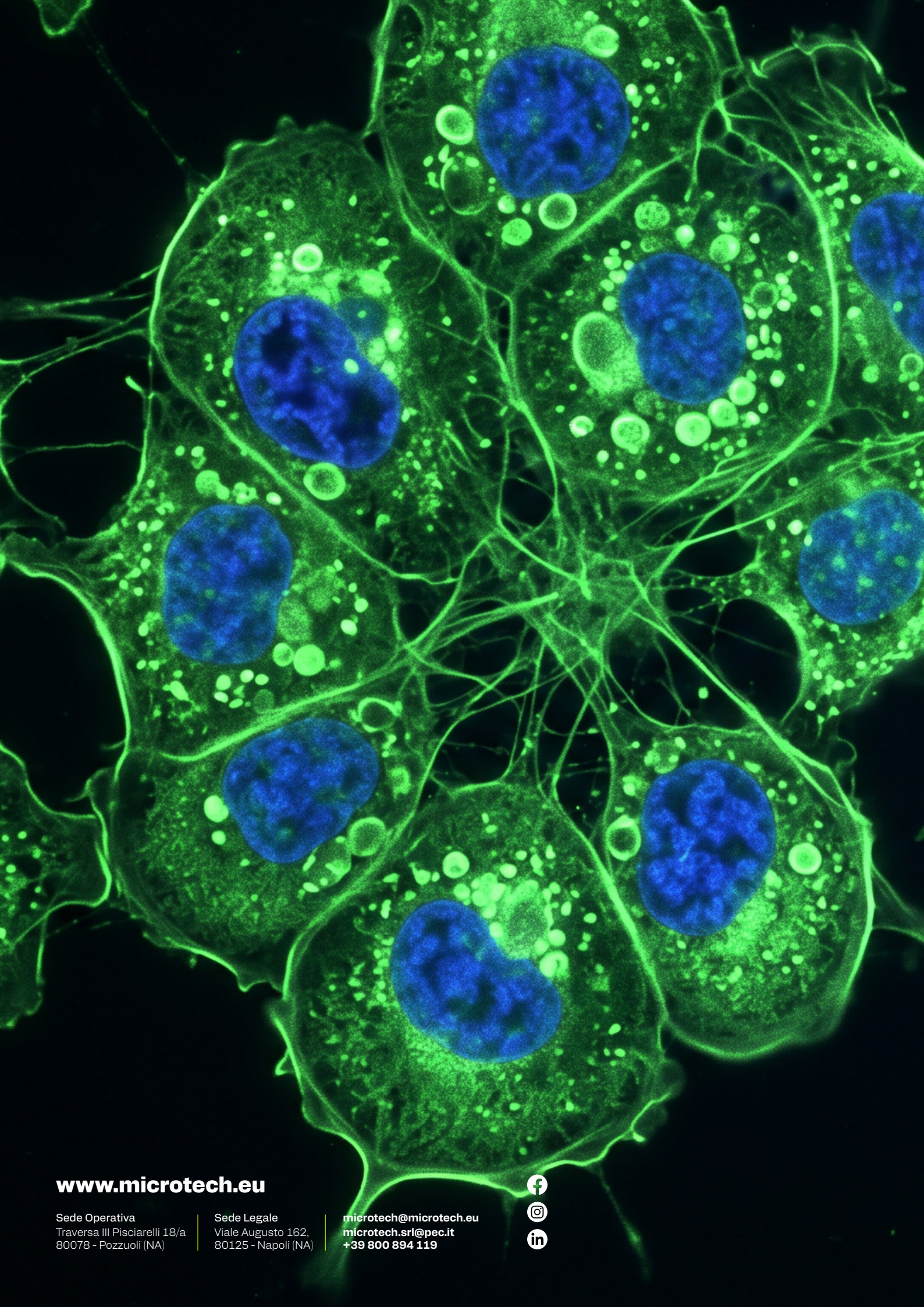
Without lysis of the cells, live cell observations can be performed

Wide Applications

Can be combined with multiple assay kits, choose diversification

Caspase Assay Kits (Fluorescence Method)

Product Name	Cat.No.	Size
Caspase 1 Activity Detection Substrate for Flow Cytometry	E-CK-A481	20/100 Tests
Caspase 3/7 Activity Detection Substrate for Flow Cytometry	E-CK-A483	20/100 Tests
Caspase 4 Activity Detection Substrate for Flow Cytometry	E-CK-A484	20/100 Tests
Caspase 6 Activity Detection Substrate for Flow Cytometry	E-CK-A486	20/100 Tests
Caspase 8 Activity Detection Substrate for Flow Cytometry	E-CK-A488	20/100 Tests
Caspase 9 Activity Detection Substrate for Flow Cytometry	E-CK-A489	20/100 Tests
Caspase 3/7 and Annexin V Double Staining Apoptosis Kit	E-CK-A831	20/100 Assays
Caspase 3/7 and PI Double Staining Kit	E-CK-A832	20/100 Assays
Caspase 3/7 and DAPI Double Staining Kit	E-CK-A833	20/100 Assays



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