

# *Cell Health Assay kits*

Viability, Cytotoxicity, Apoptosis & Senescence



***ASPIRE***  
***TO DISCOVER***

# Assay Genie: Maximum Support

## About to Assay Genie

Assay Genie is a proprietary range of cell-based & biochemical assay kits developed by Reagent Genie, a life science reagents company with offices in London & Dublin and a global distribution network covering 32 countries.

Founded by Colm Ryan PhD and Sean Mac Fhearraigh PhD, Assay Genie provides premium quality assay kits along with excellent technical & logistics support so you can aspire to discover the future.



**COLM RYAN PhD**  
CEO & co-founder of  
Reagent Genie

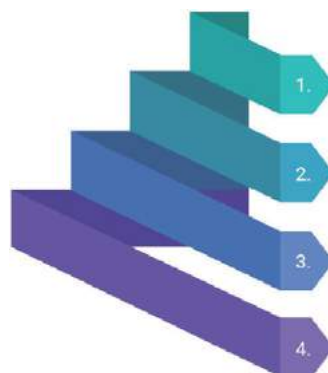


**SEÁN MAC FHEARRAIGH PhD**  
CTO & co-founder of Reagent Genie

## Maximum Support & Guarantee

Assay Genie strives to provide excellence in support to scientists all around the globe.

Assay Genie provides scientists with application-based support before, during and after testing or experiments are performed. On those rare occasions when problems arise, Assay Genie technical support scientists have a defined series of customer-centric steps to ensure that products perform to the maximum standards.



- 1. - Technical support: email, video, phone
- 2. - Troubleshooting
- 3. - Replacement kit
- 4. - 100% Money-back guarantee

## Rapid Global Delivery

Whether you are served by one of the trusted global distributors or are part of the direct logistics network, Assay Genie endeavours to ship products on-time, every time!

Contact Assay Genie 24/7 on [info@reagentgenie.com](mailto:info@reagentgenie.com) with any technical, sales or logistics questions.



# Cell Viability & Proliferation Assays

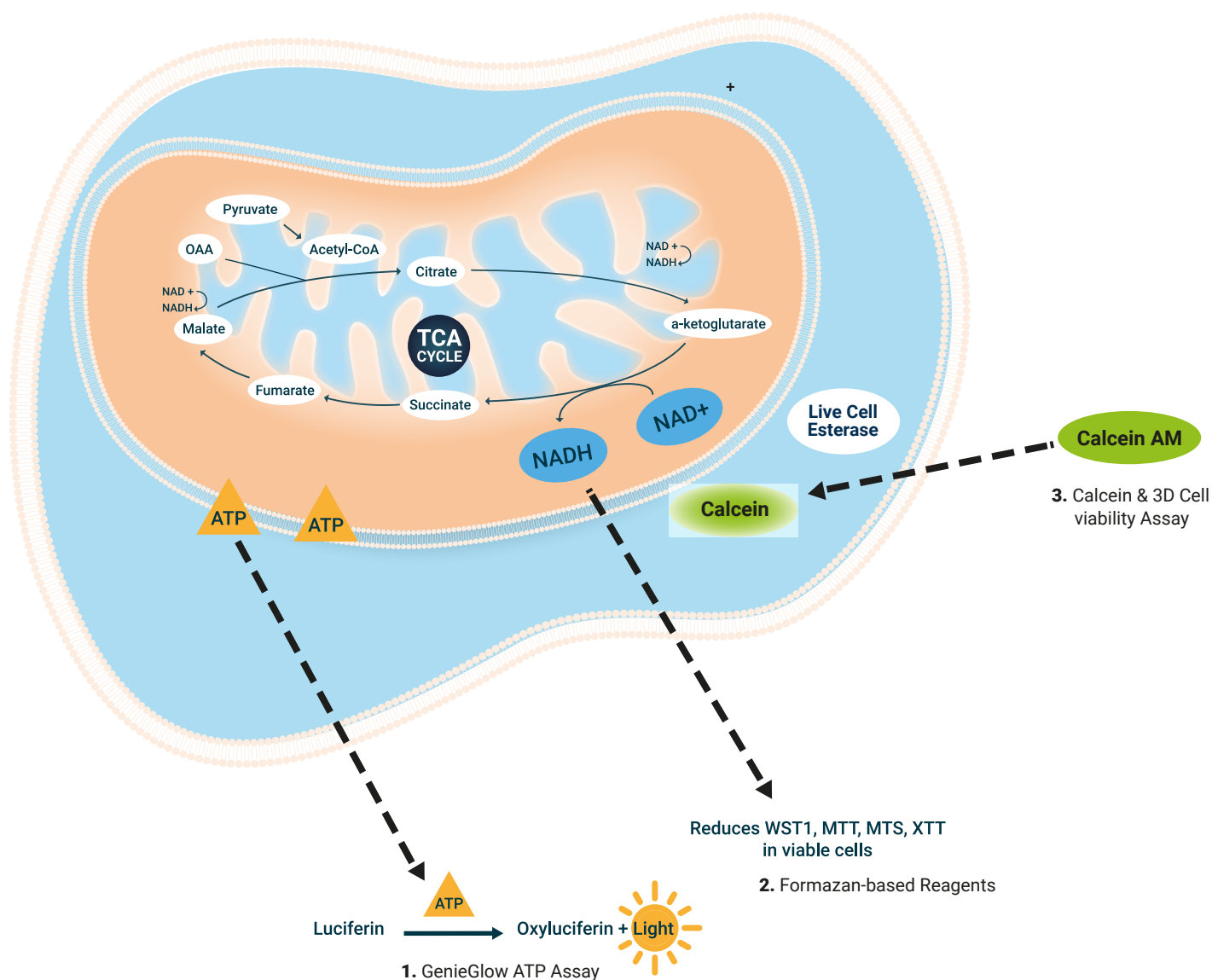
Assay Genie have created a suite of over 10 different assays for measuring cell viability and proliferation.

These assays enable the highly sensitive and reproducible detection of proliferation and viability in a wide variety of sample types.

Many assays display excellent Z'-factor values making them a super choice for high-throughput screening applications.

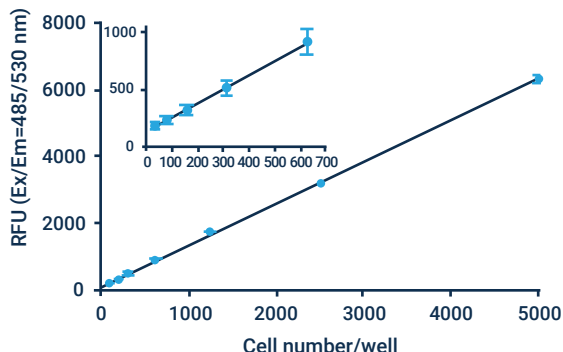
## Key Features

- Highly Sensitivity: down to as little 10 cells/well on 96-well plates with lytic and non-lytic assays
- Rapid: get results in as little as 5 minutes for maximum detection
- Flexible: compatible with a wide range of sample types as well as 3D cultures with HTS 3D culture viability assay
- Homogenous: range of "no wash" assays for ease of use
- Automatable: most assays can be automated on high throughput robotic liquid handling systems in 96-well, 384-well and 1,536-well formats



# Cell Viability & Proliferation Assays

## Featured Assay : Calcein AM Cell Viability Assay



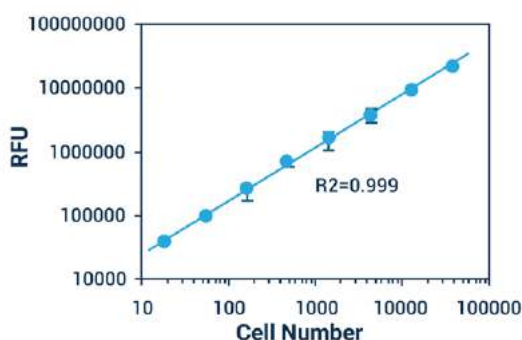
### KEY FEATURES

**High-throughput:** Non-lytic and no-wash for HTS

**Max Sensitivity:** Detect as low as 50 viable cells in less than 30 min.

**Figure:** Fibroblast cells were grown & serially diluted in a clear cell culture plate and incubated with Calcein AM. Cells were lysed & fluorescence was measured. Inset graph is an expanded segment of the assay data at lower cell number per well.

## Featured Assay : GenieBlue Cell Viability Assay



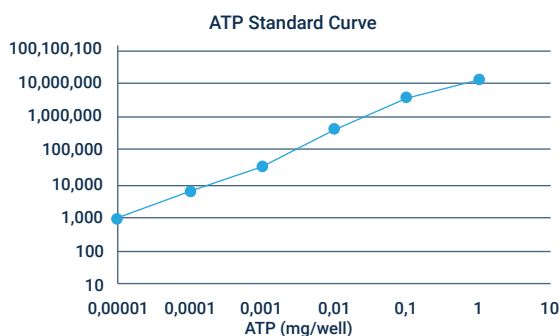
### KEY FEATURES

**High-throughput:** Excellent HTS alternative to AlamarBlue™ & CellTiter-Blue™

**Max Sensitivity:** Detect as few as 100 cells in end-point or kinetic assay format

**Figure:** Linear relationship between GenieBlue fluorescence and cell number. HEK293 cells were serially diluted in a 384-well plate. Fluorescence intensity was linear to the cell number. The limit of detection was 100 cells.

## Featured Assay: GenieGlow ATP Cell Viability Assay



### KEY FEATURES

**High-throughput:** No-wash homogenous assay

**Highly-sensitive:** Detect as few as 10 cells per well

**Rapid:** 10 sec/sample or 30 minutes in total

**Figure:** A) ATP Standard Curve using our Diaphanes Pectinealis (rLucHS) luciferase

# Cell Viability & Proliferation Assays

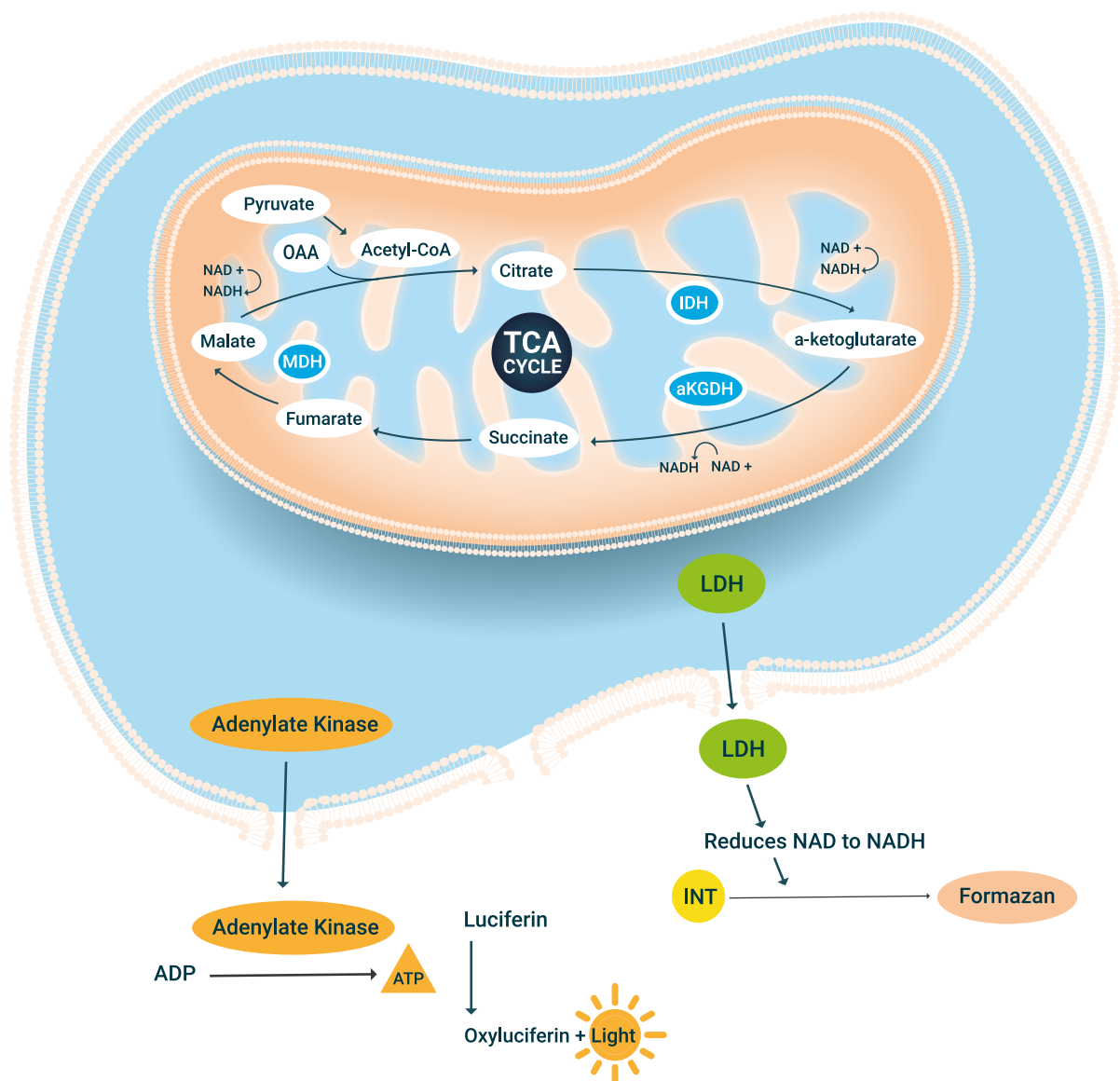
ASSAY	PARAMETER	TIME	THROUGHPUT	SENSITIVITY	MEASUREMENT	SIZE	CAT NO.
GenieGlow ATP Cell Viability Assay Kit	Quantify ATP from viable cells	5 minutes	96   384	~10 cells	Plate Reader Luminescence	200 assays 1000 assays	BN00520 BN00521
GenieBlue Cell Viability Assay Kit	NADH reduction of Resazurin (Kinetic)	1 - 24 hours	96   384   1536	100 cells	Plate Reader Absorbance: 565nm Fluorescence: Ex. 530nm / Em. 590nm	2,500 assays 10000 assays	CV0007 CV0008
Calcein AM Cell Viability Assay Kit	Calcein (live cell esterase)	30 minutes	96   384   1536	50 cells	Plate Reader Fluorescence: Ex. 485nm / Em. 530nm	1000 assays	BN00563
3D HTS Cell Viability Assay Kit	Calcein (live cell protease) optimised for 3D cultures	30 minutes	96   384   1536	50 cells	Plate Reader Fluorescence: Ex. 485nm / Em. 530nm"	100 assays	BN01109
MTS Cell Proliferation Assay Kit	Reduction of MTS to Formazan (1-Step)	0.5 - 4 hours	96   384	200 - 1000 cells	Plate Reader Absorbance: 490nm	250 assays 500 assays 2500 assays 5000 assays 10000 assays	BN00551 BN00552 BN00553 BN00554 BN00555
MTT Cell Proliferation Assay Kit	Reduction of MTT to Formazan	3 hours	96   384	200 - 1000 cells	Plate Reader Absorbance: 590nm	1000 assays	BN00550
XTT Cell Proliferation Assay Kit	Reduction of XTT by NADPH (1-Step)	2 - 4 hours	96   384   1536	200 - 1000 cells	Plate Reader Absorbance: 450nm	500 assays	CV0005 CV0006
1-Step Cell Proliferation Assay Kit Lite	Reduction of WST-1 to formazan	0.5 - 4 hours	96   384   1536	200 - 1000 cells	Plate Reader Absorbance: 450nm	500 assays 2500 assays	BN00556 BN00557
Live/Dead Cell Viability Assay Kit	Live cell protease / Dead cell DNA dye	20 minutes	96	50 - 100 cells	FACS & FL Microscopy Live: Ex. 488nm / Em. 530nm Dead: Ex. 495nm / Em. 635nm	100 Stainings	BN00732
BrdU Cell Proliferation Assay Kit	BrdU	1 - 5 hours	96   384	50 - 100 cells	Plate Reader Absorbance: 450nm	200 assays 1000 assays	BN00564 BN00565
Global RNA Synthesis kit (Click Kit)	Click chemistry kit Modified RNA detected via azide containing dye	5 hours	96	N/A	FACS & FL Microscopy Ex. 480nm / Em. 530/590nm	100 assays	BN00938
Global Protein Synthesis kit (Click Kit)	Click chemistry kit Alkyne analog (OP-puro)	3 - 5 hours	96	N/A	FACS & FL Microscopy Ex. 488nm / Em. 440/590nm	100 assays	BN00697

# Cytotoxicity Assays

Assay Genie have developed over 10 assays to quantify cellular cytotoxicity and senescence. Utilising best-in-class technology, many of the Assay Genie Cytotoxicity assays come in 1-step, no wash, homogenous formats enabling automation for high throughput screening applications. All our assays enable highly sensitive and reproducible detection of cytotoxicity and senescence in a variety of sample types.

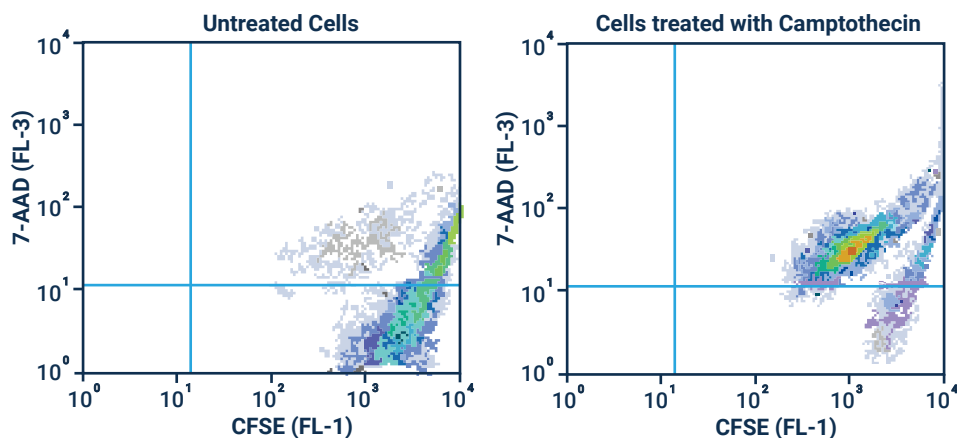
## Key Features

- Simple Detection: absorbance, fluorescence and luminescence lytic and non-lytic assays
- Rapid: results in as little as 20 minutes for maximum detection
- Flexible: compatible with a wide range of sample types
- 1-Step: range of "no wash" 1-step assays for ease of use
- Automatable: most assays can be automated on high throughput robotic liquid handling systems in 96-well, 384-well and 1,536-well formats



# Cytotoxicity Assays

## Featured Assay: ADCC Assay



### KEY FEATURES

**High-throughput:** Non-lytic ADCC (Antibody Dependent Cell Cytotoxicity) (ADCC)

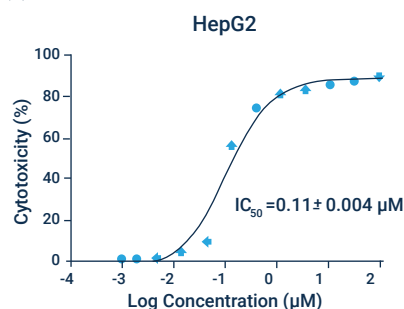
**Rapid:** Directly assay for ADCC in as little as 30 minutes

**Easy:** Maximise data on most flow cytometers

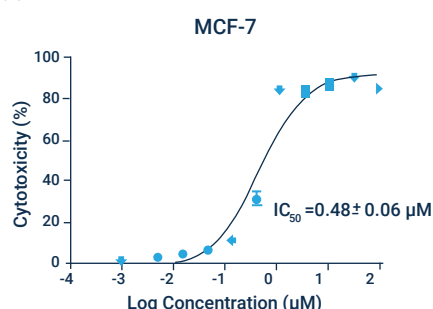
**Figure:** Jurkat cells ( $10^5$  cells/ml) were grown in RPMI media supplemented with 10% FBS. Cells were treated with camptothecin ( $5 \mu\text{M}$ ) overnight & stained with CFSE and 7-AAD for 30 min. at  $37^\circ\text{C}$ . The graph (right side) displays the cytotoxic effect of the compound, illustrating apoptosis using CFSE and 7-AAD.

## Featured Assay: Sulforhodamine B (SRB) Cell Cytotoxicity Assay Kit

(a)



(b)



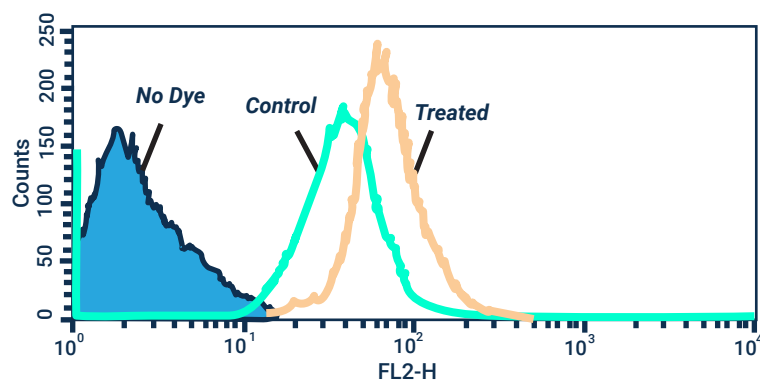
### KEY FEATURES

**Easy-to-Use:** Simple non-radioactive protocol with results in less than 2 hours

**Max Sensitivity:** Detect between 5,000 & 50,000 cells per well

**Figure:** Dose-response curve of (a) HepG2 & (b) MCF-7 cells after exposing to doxorubicin for 72 hr determined by the SRB assay. Assays were performed according to the kit protocol in triplicate.

## Featured Assay: Senescence Assay



### KEY FEATURES

**High-throughput:** Simple, 1-step protocol ideal for HTS

**Max Sensitivity:** Detect senescence in as little as 2 hour assay time.

**Figure:** 3T3 cells were treated (with and without 200nM of Daunorubicin.HCl; test and control response respectively). Cells were incubated with media containing Senescence Dye then washed and analysed by flow cytometry.



# Cytotoxicity Assays

ASSAY	PARAMETER	TIME	THROUGHPUT	INSTRUMENT	MEASUREMENT	SIZE	CAT NO.
ADCC Assay kit	CFSE (Live cells) and 7-ADD (Dead cells)	30 minutes	96   384	FACS	Live Cells: FL-1 Channel Dead Cells: FL-3 Channel	100 assays	BN00582
GenieGlow Cytotoxicity Assay Kit	Adenylate Kinase (AK) Release (1-Step)	30 minutes	96   384   1535	Plate Reader	Luminescence	500 assays	BN00579
SRB Assay	SRB-Protein complex formation (non-metabolic)	2.5 hours	96   384	Plate Reader	Absorbance: 565nm	1,000 assays	CV0009
LDH Cytotoxicity Assay Kit	LDH Release	55 minutes	96   384	Plate Reader	Absorbance: 490nm	400 assays 2,000 assays	CV0020 CV0021
Autophagy/ Cytotoxicity Assay kit	Autophagosome dye / Dead cell dye	30 minutes	96	FACS	Autophagy: UV Channel Cell Death: FL-2 Channel	50 assays	BN00691
Senescence Detection kit	SA- $\beta$ -Gal activity	1 - 2 hours	96	FACS	LFL-1 to FL-1	500 assays	BN01149
XTT Cell Proliferation Assay Kit	Reduction of XTT by NADPH(1-Step)	2 - 4 hours	96   384   1536	Plate Reader	Plate Reader Absorbance: 450nm	500 assays	CV0005 CV0006
1-Step Cell Proliferation Assay Kit Lite	Reduction of WST-1 to formazan	0.5 - 4 hours	96   384   1536	Plate Reader	Plate Reader Absorbance: 450nm	500 assays 2500 assays	BN00556 BN00557
Live/Dead Cell Viability Assay Kit	Live cell protease / Dead cell DNA dye	20 minutes	96	Microscope/ FACS	Live: Ex. 488nm / Em. 530nm Dead: Ex. 495nm / Em. 635nm	100 Stainings	BN00732
BrdU Cell Proliferation Assay Kit	BrdU	1 - 5 hours	96   384	Plate Reader	Plate Reader Absorbance: 450nm	200 assays 1000 assays	BN00564 BN00565



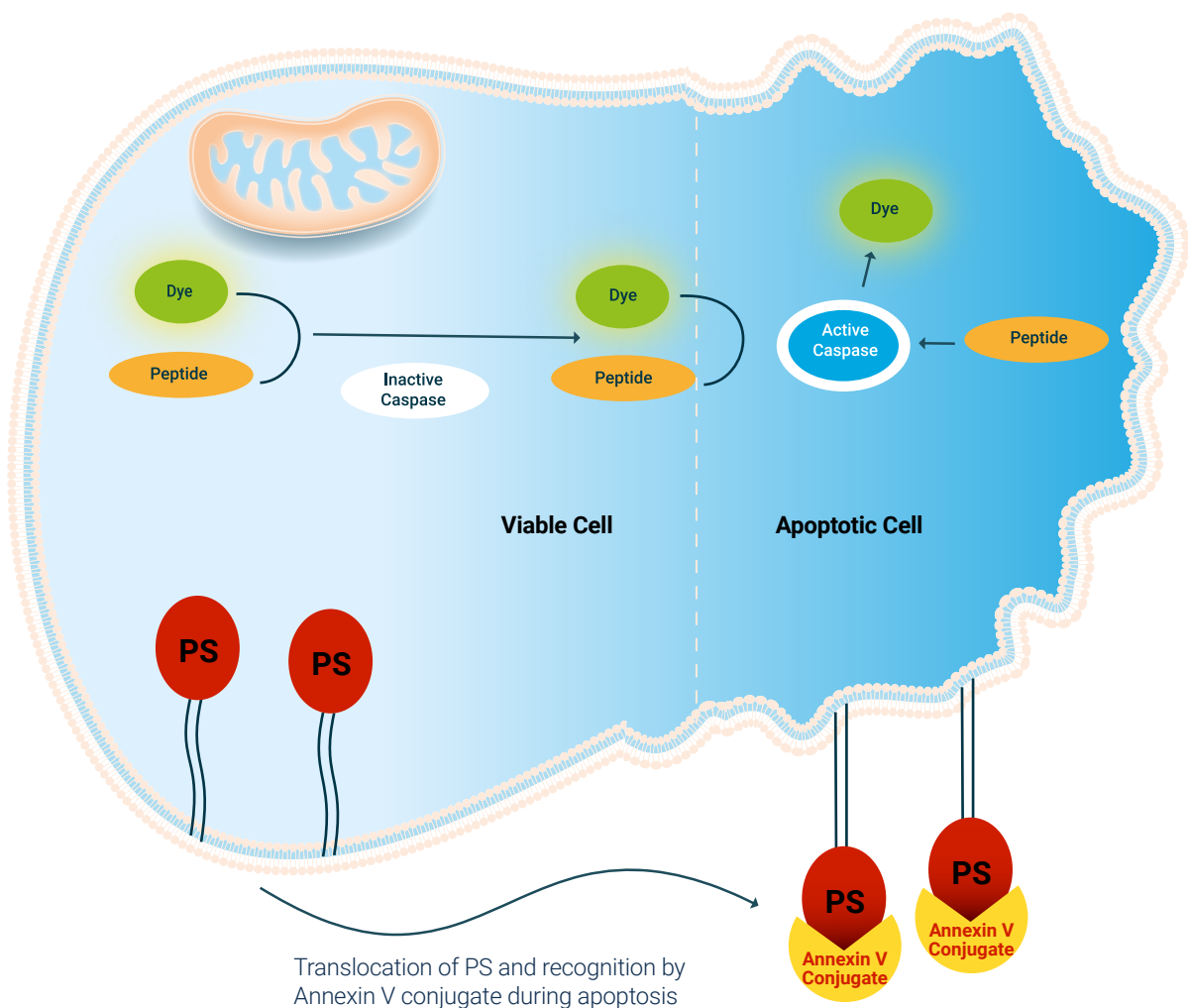
# Apoptosis Assays

**Assay Genie** have developed an extensive suite of assays to measure various forms of cell death including the highly sensitive and reproducible detection of apoptosis & necrosis. These assays detect key biomarkers such as caspase activity, DNA fragmentation and translocation of phosphatidylserine (PS) to the outer surface of the plasma membrane.

Utilising best-in-class technology, many of the Assay Genie assays allow for the in-situ or in vitro analysis of apoptosis using commonly available platforms equipped with absorbance or fluorescence detection modules.

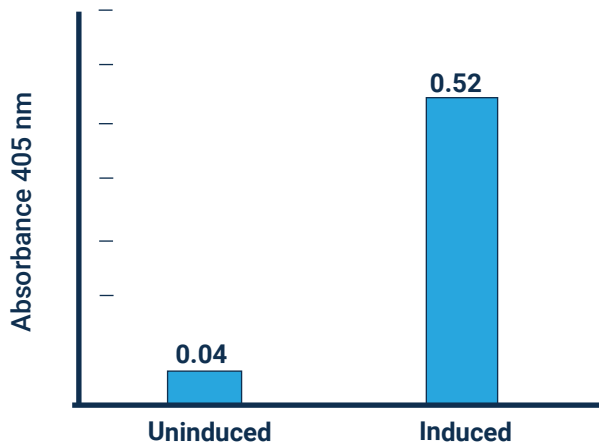
## Key Features

- Simple Detection: use with plate readers, flow cytometers or fluorescent microscopes
- Flexible: array of caspase activity assays compatible with fluorescence or absorbance read-outs
- Rapid: results in as little as 10 minutes for maximum detection
- Flexible: use with a wide range of sample types



# Apoptosis & Necrosis Assays

## Featured Assay: Caspase 3/7 Activity Assay



### KEY FEATURES

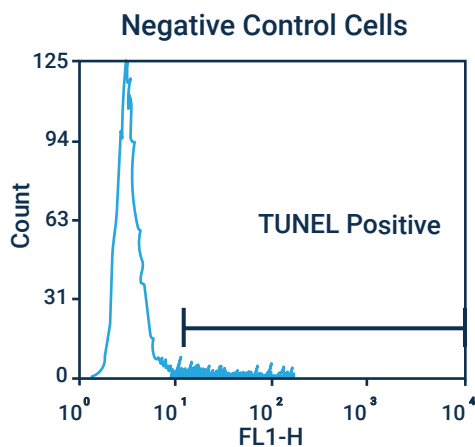
**Relevant:** Quantify Caspase activity in various sample types

**Flexible:** Choose from either colorimetric & fluorescence Caspase activity assays

**Screening:** Use our unique Caspase Inhibitor Screening kits to screen for inhibitors of Caspase activity

**Figure:** Induction of Caspase-3 Activity by Anti-Fas Antibody in Jurkat-T Cells using Caspase-3 Colorimetric Assay Kit (BN00017-18)

## Featured Assay: TUNEL Assay Kit (Direct In Situ)

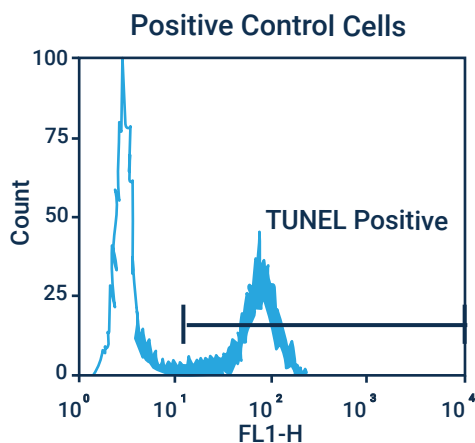


### KEY FEATURES

**Relevant:** Measure apoptosis via DNA fragmentation

**Fast:** Complete protocol in ~3 hours

**Figure:** The TUNEL Assay kit (Direct In Situ) DNA Fragmentation Assay Kit provides complete components including control cells for detecting DNA fragmentation by fluorescence microscopy or flow cytometry



# Apoptosis & Necrosis Assays

ASSAY	PARAMETER	TIME	THROUGHPUT	INSTRUMENT	MEASUREMENT	SIZE	CAT NO.
Caspase 1 Assay Kit	Caspase 1 Activity Cell Culture & Tissue Samples	1 -2 hours	96   384	Plate reader	Absorbance: 405nm	25 assays 100 assays	BN00028 BN00029
					Fluorescence: Ex. 400nm / Em. 505nm	25 assays 100 assays	BN00024 BN00025
Caspase 2 Assay Kit	Caspase 2 Activity Cell Culture & Tissue Samples	1 -2 hours	96   384	Plate reader	Absorbance: 405nm	25 assays 100 assays	BN00052 BN00053
					Fluorescence: Ex. 400nm / Em. 505nm	25 assays 100 assays	BN00048 BN00049
Caspase 3/7 Assay Kit	Caspase 3/7 Activity Cell Culture & Tissue Samples	1 -2 hours	96   384	Plate reader	Absorbance: 400nm	25 assays 100 assays	BN00017 BN00018
					Fluorescence: Ex. 400nm / Em. 505nm	25 assays 100 assays	BN00013 BN00014
Caspase 4 Assay Kit	Caspase 4 Activity Cell Culture & Tissue Samples	1 -2 hours	96   384	Plate reader	Absorbance: 400nm	25 assays 100 assays	BN00135 BN00136
					Fluorescence: Ex. 400nm / Em. 505nm	25 assays 100 assays	BN00131 BN00132
Caspase 5 Assay Kit	Caspase 5 Activity Cell Culture & Tissue Samples	1 -2 hours	96   384	Plate reader	Absorbance: 400nm	25 assays 100 assays	BN00084 BN00085
					Fluorescence: Ex. 400nm / Em. 505nm	25 assays 100 assays	BN00075 BN00076
Caspase 6 Assay Kit	Caspase 6 Activity Cell Culture & Tissue Samples	1 -2 hours	96   384	Plate reader	Absorbance: 400nm	25 assays 100 assays	BN00044 BN00045
					Fluorescence: Ex. 400nm / Em. 505nm	25 assays 100 assays	BN00040 BN00041
Caspase 8 Assay Kit	Caspase 8 Activity Cell Culture & Tissue Samples	1 -2 hours	96   384	Plate reader	Absorbance: 400nm	25 assays 100 assays	BN00036 BN00037
					Fluorescence: Ex. 400nm / Em. 505nm	25 assays 100 assays	BN00032 BN00033
Caspase 9 Assay Kit	Caspase 9 Activity Cell Culture & Tissue Samples	1 -2 hours	96   384	Plate reader	Absorbance: 400nm	25 assays 100 assays	BN00060 BN00061
					Fluorescence: Ex. 400nm / Em. 505nm	25 assays 100 assays	BN00056 BN00057
Caspase 10 Assay Kit	Caspase 10 Activity Cell Culture & Tissue Samples	1 -2 hours	96   384	Plate reader	Absorbance: 400nm	25 assays 100 assays	BN00123 BN00124
					Fluorescence: Ex. 400nm / Em. 505nm	25 assays 100 assays	BN00103 BN00104
Caspase 12 Assay Kit	Caspase 12 Activity Cell Culture & Tissue Samples	1 -2 hours	96   384	Plate reader	Fluorescence: Ex. 400nm / Em. 505nm	25 assays 100 assays	BN00339 BN00340
Annexin V-FITC Apoptosis Detection Kit	Annexin V-FITC binding to Phosphatidylserine (PS)	15 minutes	96	FACS FL Microscopy	Ex. 488nm/ Em. 530nm	100 assays	CV0001
Annexin V-APC Apoptosis Detection Kit	Phosphatidylserine (PS) Detection	15 minutes	96	FACS FL Microscopy	Ex. 633nm/ Em. 700nm	100 assays	CV0002

# Apoptosis & Necrosis Assays

ASSAY	PARAMETER	TIME	THROUGHPUT	INSTRUMENT	MEASUREMENT	SIZE	CAT NO.
Annexin V-Biotin Apoptosis Detection Kit	Phosphatidylserine (PS) Detection	15 minutes	96	N/A	N/A	100 assays	CV0003
Annexin V-PE Apoptosis Detection Kit	Phosphatidylserine (PS) Detection	15 minutes	96	FACS FL Microscopy	Ex. 488 nm/ Em. 578nm	100 assays	CV0004
Annexin V-CY3 Apoptosis Detection Kit	Phosphatidylserine (PS) Detection	10 minutes	96	FACS FL Microscopy	Ex. 543 nm/ Em. 570nm	25 assays 100 assays	BN00004 BN00005
Annexin V-CY5 Apoptosis Detection Kit	Phosphatidylserine (PS) Detection	10 minutes	96	FACS FL Microscopy	Ex. 649 nm/ Em. 670nm	25 assays 100 assays	BN00007 BN00008
Annexin V-GFP Apoptosis Detection Kit	Phosphatidylserine (PS) Detection	10 minutes	96	FACS FL Microscopy	Ex. 488 nm/ Em. 530nm	25 assays 100 assays	BN00010 BN00011
Annexin V-PE/CY5 Apoptosis Detection Kit	Live Cell Phosphatidylserine (PS) Detection	10 minutes	96	FACS FL Microscopy	Ex. 488 nm/ Em. 670nm	25 assays 100 assays	BN00139 BN00140
Apoptosis / Necrosis Assay (FITC) kit	1-Step   Live Cells Apoptosis: Annexin V-FITC Necrosis: SYTOX Green	10 minutes	96	FACS FL Microscopy	SYTOX Green & Annexin V-FITC: Ex. 488nm / Em. 530nm   FL1	25 assays 100 assays	BN00473 BN00474
Apoptosis / Necrosis Assay (CY3) kit	1-Step   Live Cells Apoptosis: Annexin V-CY3 Necrosis: SYTOX Green	10 minutes	96	FACS FL Microscopy	SYTOX Green: Ex.488nm/Em. 530nm   FL1 Annexin V-CY3: Ex.543nm/Em.570nm   FL2	25 assays 100 assays	BN00476 BN00477
Apoptosis / Necrosis Assay (PE) kit	1-Step   Live Cells Apoptosis: Annexin V-PE Necrosis: SYTOX Green	10 minutes	96	FACS FL Microscopy	SYTOX Green: Ex.488nm/Em.530nm   FL1 Annexin V-PE: Ex.488nm/Em.578nm   FL2	25 assays 100 assays	BN00479 BN00480
TUNEL Assay Kit (BrdU DNA)	DNA fragmentation via Br-dUTP/anti-BrdU FITC Ab	1 - 3 hours	96	FACS FL Microscopy	FITC: Ex.488 nm/Em.520nm PI: Ex. 488 nm/Em.623nm	60 assays	BN00654
TUNEL Assay Kit (Direct In Situ)	DNA fragmentation via fluorescein-12-dUTP	1 - 3 hours	96	FACS FL Microscopy	FITC: Ex.488 nm/Em.520nm PI: Ex. 488 nm/Em.623nm	50 assays	BN00655
TUNEL Assay Kit (BrdU-IHC DNA)	DNA fragmentation via Br-dUTP/anti-BrdU Biotin Ab	1 - 3 hours	96	Microscopy	IHC	50 assays	BN00656
TUNEL Assay Kit (BrdU-RED DNA)	DNA fragmentation via Br-dUTP/anti-BrdU RED Ab	1 - 3 hours	96	FACS FL Microscopy	BrdU: Ex.488 nm/Em.576nm 7-AAD: Ex.488 nm/Em.655nm	60 assays	BN00657