

# Fluorescent Probes



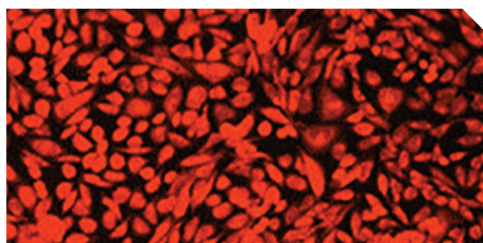
Achieve the versatility, sensitivity, and quantitative capabilities you need in your research with Cayman's diverse library of more than 400 fluorescent probes. We offer a range of probes to detect intracellular events, protein interactions, a host of enzyme substrates, and many other significant targets. Use this at-a-glance guide to select the most appropriate fluorochromes for your experiment.

## Cell Viability, Cell Cycle, and Cell Proliferation

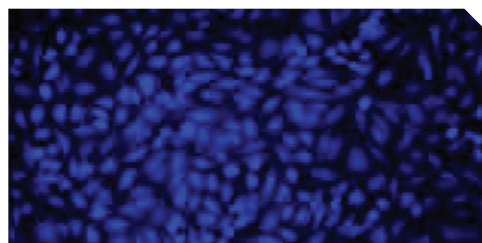
Item No.	Product Name	Detects	Cell Permeable?	Excitation Maximum (nm)	Emission Maximum (nm)
14338	Acridine Orange	cell cycle phase; pH	✓	■ 502 (dsDNA) ■ 460 (ssDNA and RNA) ■ 475 (low pH)	■ 525 (dsDNA) ■ 650 (ssDNA and RNA) ■ 590 (low pH)
11397	7-Aminoactinomycin D	DNA; cell viability	✗	■ ■ ■ 488, 546, 578	■ 650
14948	Calcein AM*	cell viability	✓	■ 494	■ 517
20635	Calcein Deep Red™ Acetate*	cell viability	✓	■ 646	■ 659
20632	Calcein Red™ AM*	cell viability	✓	■ 560	■ 574
20639	Calcein UltraBlue™ AM*	cell viability <i>(higher photostability and stronger fluorescence intensity at physiological pH than Calcein Blue)</i>	✓	■ 360	■ 445
14456	CFDA-SE	cell proliferation	✓	■ 491	■ 518
20695	CytoCalcein™ Violet 500	cell viability	✓	■ 405	■ 500
20698	CytoTrace™ Red CMTPIX	cell division; cell trafficking; cell-to-cell interactions	✓	■ 577	■ 602
19583	Green CMFDA	cell division; cell trafficking	✓	■ 492	■ 517
15547	Hoechst 33342 (hydrochloride)	DNA (A-T-rich sequences); cell cycle; nuclear morphology	✓	■ 350	■ 461
15003	JC-1	mitochondrial integrity; apoptosis	✓	■ 485 (monomer) ■ - ■ 520-570 (aggregate)	■ 535 (monomer) ■ 570-610 (aggregate)
14289	Propidium Iodide	DNA; RNA; cell viability	✗	■ 488-535	■ 617
14488	Pyronin Y	dsRNA; cell cycle	✓	■ - ■ 540-550	■ - ■ 560-580
14322	Resazurin (sodium salt)	enzyme activity; cell viability	✓	■ 530-540	■ 585-595
21686	Resorufin Acetate	cytosolic ALDH esterase and chymotrypsin activity	✓	■ 571	■ 585

\*Also available: membrane-impermeable non-AM forms

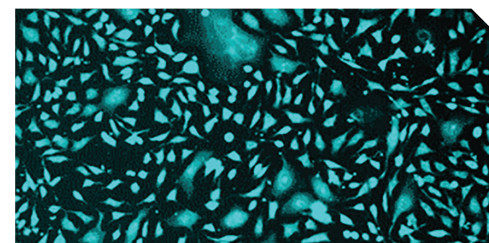
View a complete list of cell health fluorescent probes online at [www.caymanchem.com](http://www.caymanchem.com)



CPA cells stained with Calcein Orange™ Diacetate



Live HeLa cells stained in medium with Calcein UltraBlue™ AM



CPA cells stained with CytoCalcein™ Violet 500

## Protease Substrates

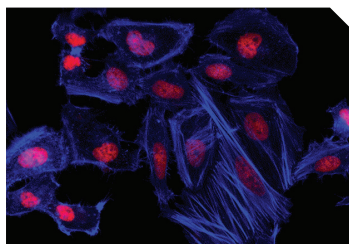
Item No.	Product Name	Detects	Excitation Maximum (nm)	Emission Maximum (nm)
26640	Ac-ANW-AMC	$\beta$ 5i/LMP7 subunit of the 20S immunoproteasome activity	340-360	440-460
14459	Ac-DEVD-AFC	caspase-3 activity	400	505
17051	Ac-LEHD-AFC (trifluoroacetate salt)	caspase-4, -5, and -9 activity	400	505
14991	Ac-LETD-AFC	caspase-8 activity	400	505
14989	Ac-VEID-AMC	caspase-6 and -8 activity	340-360	440-460
14992	Ac-WEHD-AFC	caspase-1, -4, and -5 activity	400	505
26639	Ac-WLA-AMC	$\beta$ 5c subunit of the 20S proteasome activity	351	430
17591	Ac-YVAD-AFC	caspase-1 and -4 activity	400	505
14907	MeOSuc-Ala-Ala-Pro-Val-AMC	human leukocyte and porcine pancreatic elastase activity	355-380	440-460
11675	(Z-Ala-Ala-Ala-Ala) <sub>2</sub> Rh110	elastase activity	485	525
27101	Z-IETD-AFC	caspase-8 and granzyme B activity	380	500
28212	(Z-IETD) <sub>2</sub> -Rh 110 (trifluoroacetate salt)	caspase-8 activity	496	520
10008118	Z-LLL-AMC	proteasomal chymotrypsin-like activity	340-360	440-460

View a complete list of protease activity fluorescent probes online at [www.caymanchem.com](http://www.caymanchem.com)

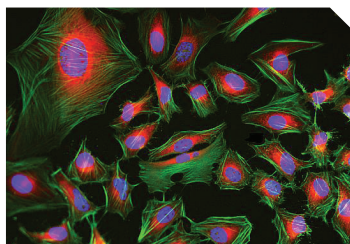
## Cytoskeletal Proteins

Item No.	Product Name	Detects	Excitation Maximum (nm)	Emission Maximum (nm)
21016	9-(2,2-Dicyanovinyl)julolidine	tubulin and other cytoskeletal proteins	450	480 (low viscosity solvents) 505 (high viscosity solvents)
20463	Phalloidin-AMCA Conjugate	F-actin	350	450
20546	Phalloidin-California Red Conjugate	F-actin	583	605
20478	Phalloidin-Fluorescein Conjugate	F-actin	492	518
20547	Phalloidin-iFluor™ 350 Conjugate	F-actin	353	442
20549	Phalloidin-iFluor™ 488 Conjugate	F-actin	493	517
20550	Phalloidin-iFluor™ 514 Conjugate	F-actin	520	547
20552	Phalloidin-iFluor™ 555 Conjugate	F-actin	556	574
20553	Phalloidin-iFluor™ 594 Conjugate	F-actin	590	618
20555	Phalloidin-iFluor™ 647 Conjugate	F-actin	650	665
20545	Phalloidin-Tetramethylrhodamine Conjugate	F-actin	546	575

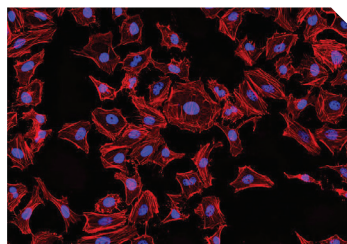
View a complete list of cytoskeletal protein fluorescent probes online at [www.caymanchem.com](http://www.caymanchem.com)



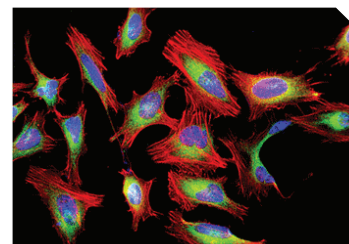
Actin filaments stained with Phalloidin-iFluor™ 350 Conjugate



HeLa cells stained with Phalloidin-iFluor™ 488 Conjugate



HeLa cells stained with Phalloidin-iFluor™ 514 Conjugate



HeLa cells labeled with Phalloidin-iFluor™ 594 Conjugate

## Calcium

Item No.	Product Name	Detects	Cell Permeable?	Excitation Maximum (nm)	Emission Maximum (nm)
20424	BTC AM*	intracellular calcium (low affinity)	✓	■ / ■ 401 (Ca <sup>2+</sup> -bound) / 480	■ 529
20400	Cal Green™ 1 AM*	intracellular calcium	✓	■ 506	■ 531
14960	Fluo-3 AM*	intracellular calcium	✓	■ 488	■ 526
14591	Fura-2 AM*	intracellular calcium	✓	■ 380 (low [Ca <sup>2+</sup> ]) ■ 340 (high [Ca <sup>2+</sup> ])	■ 512 (low [Ca <sup>2+</sup> ]) ■ 505 (high [Ca <sup>2+</sup> ])
20416	Fura-FF AM*	intracellular calcium (low affinity)	✓	■ 365 (no Ca <sup>2+</sup> ) ■ 339 (high [Ca <sup>2+</sup> ])	■ 514 (no Ca <sup>2+</sup> ) ■ 507 (high [Ca <sup>2+</sup> ])
20417	Indo-1 AM*	intracellular calcium	✓	■ 349-364	■ 475-485 (no Ca <sup>2+</sup> ) ■ 400-410 (Ca <sup>2+</sup> -bound)
20422	Quin-2 AM*	intracellular calcium (high affinity)	✓	■ 339	■ 492
20442	Rhod-5N AM*	intracellular calcium (low affinity)	✓	■ 551	■ 576
20444	Rhod-FF AM*	intracellular calcium (low affinity)	✓	■ 552	■ 580

\*Also available: membrane-impermeable non-AM forms

View a complete list of calcium fluorescent probes online at [www.caymanchem.com](http://www.caymanchem.com)

## Protein Interactions

Item No.	Product Name	Detects	Excitation Maximum (nm)	Emission Maximum (nm)
20672	3-BODIPY-propanoylaminocaproic Acid N-hydroxysuccinimide ester	proteins immobilized on PVDF membranes	■ 300-360, 504	■ 511
20704	FIAsH-EDT <sub>2</sub>	proteins with a tetracysteine sequence	■ 508	■ 528
19767	ReAsH-EDT <sub>2</sub>	proteins with a tetracysteine sequence	■ 593	■ 608

View a complete list of probes to detect protein interactions online at [www.caymanchem.com](http://www.caymanchem.com)

## Enzyme Substrates

Item No.	Product Name	Detects	Excitation Maximum (nm)	Emission Maximum (nm)
62910	7-hydroxycoumarinyl Arachidonate	cPLA <sub>2</sub> activity	■ 335	■ 450
16551	4-Methylumbelliferyl- $\alpha$ -D-Galactopyranoside	$\alpha$ -galactosidase activity	■ 330 (pH 4.6); 370 (pH 7.4); ■ 385 (pH 10.4)	■ 445-454
20948	4-Methylumbelliferyl- $\beta$ -D-Glucopyranoside	$\beta$ -glucosidase and $\beta$ -glucocerebrosidase activity	■ 330 (pH 4.6); 370 (pH 7.4); ■ 385 (pH 10.4)	■ 445-454
9001600	4-Methylumbelliferyl- $\alpha$ -L-Iduronide 2-sulfate (sodium salt)	$\alpha$ -L-iduronidase and iduronate-2-sulfatase activity	■ 330 (pH 4.6); 370 (pH 7.4); ■ 385 (pH 10.4)	■ 445-454
19590	4-Methylumbelliferyl Oleate	acid and alkaline lipase activity	■ 330 (pH 4.6); 370 (pH 7.4); ■ 385 (pH 10.4)	■ 445-454
16645	4-Methylumbelliferyl Phosphate	phosphatase activity	■ 330 (pH 4.6); 370 (pH 7.4); ■ 385 (pH 10.4)	■ 445-454
62245	10-Pyrene-PC	phospholipase activity	■ 345	■ 395

View a complete list of enzyme substrate fluorescent probes online at [www.caymanchem.com](http://www.caymanchem.com)

## pH

Item No.	Product Name	Detects	Cell Permeable?	Excitation Maximum (nm)	Emission Maximum (nm)
17183	BCECF	pH	✓	■ / ■ 440 / 490	■ 535
15922	BCECF AM	intracellular pH	✗	■ / ■ 440 / 490	■ 535

## ROS, RNS, Oxidative Damage

Item No.	Product Name	Detects	Cell Permeable?	Excitation Maximum (nm)	Emission Maximum (nm)
14051	Coumarin Boronic Acid	peroxynitrite, hypochlorous acid, and hydrogen peroxide formation	✓	332	470
19111	Coumarin hydrazine	reactive carbonyl groups	✓	365	430-550
85165	DAF-2 diacetate	nitric oxide	✓	485	538
18767	DAF-FM diacetate	nitric oxide	✓	495	515
85070	DAN-1 EE (hydrochloride)	nitric oxide	✓	360-380	420-450
85155	2,7-Dichlorodihydrofluorescein diacetate	peroxynitrite formation	✓	502	523
12013	Dihydroethidium	superoxide	✓	490	590
85100	Dihydrorhodamine 123	peroxynitrite	✓	500	536
62237	DPPP	hydroperoxides; low-density lipoprotein; cellular oxidation	✓	351	380
14606	FBBBE	intracellular hydrogen peroxide	✓	480	512
14872	Lucigenin	superoxide; chloride	✓	455	505
16803	Luminol	peroxidation; iron; gold; cyanide	✓	355	411
17097	Monobromobimane	reactive sulfur; thiol groups	✓	398	490
10005983	Pentafluorobenzenesulfonyl fluorescein	hydrogen peroxide	✓	465-505	505-555
13083	ThioFluor 623	thiols	✓	563	623

View a complete list of ROS, RNS, and oxidative damage fluorescent probes online at [www.caymanchem.com](http://www.caymanchem.com)

## RNA, DNA, Nucleic Acids

Item No.	Product Name	Detects	Cell Permeable?	Excitation Maximum (nm)	Emission Maximum (nm)
22439	9-Amino-6-chloro-2-methoxyacridine	DNA and pH gradients; poly(dA-dT) sequences of DNA	✓	411	475
11315	Chromomycin A <sub>3</sub>	DNA (two or more contiguous GC base pairs)	✗	445	575
14285	DAPI (hydrochloride)	DNA (A-T-rich sequences)	✗	358	461
21227	1,N <sup>6</sup> -Ethenoadenosine 5'-monophosphate (sodium salt)	5'-nucleotidase activity	✗	250-300	415
17567	N-(2-hydroxyethyl)-Naphthalimide	nucleic acids and their precursors	✗	330-333, 344-347	366-378
10671	coumarin-SAHA	HDACs	✗	325	400

View a complete list of RNA, DNA, and nucleic acid fluorescent probes online at [www.caymanchem.com](http://www.caymanchem.com)

## InCellis® Smart Cell Imaging System - Item No. 22754

- Highly sensitive fluorescence detection and unique low light color camera
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