

# Fluorescence Imaging Tools for Neuroscience



Achieve the versatility, sensitivity, and quantitative capabilities you need in your research with Cayman's collection of fluorescence imaging tools. We offer smart solutions for cell imaging from a unique microscope system to a diverse library of more than 200 fluorescent probes.

## InCellis® Smart Cell Imaging System

Item No. 22754

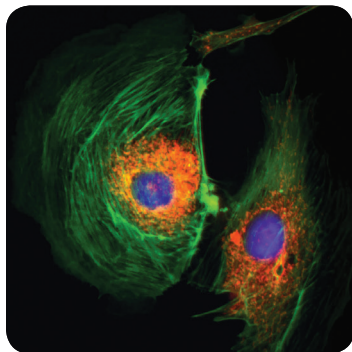
- Highly sensitive fluorescence detection and unique low light color camera
- Embedded applications dedicated to determining accurate cell culture confluency and transfection efficiency
- Smart interface and touch screen controls
- Share images in two clicks via WiFi or network connection directly from the bench
- Highly flexible: Six-position objective turret (4X to 60X) and up to four fluorescence channels
- A unique optical design provides a large field of view (900 µm at 20X)



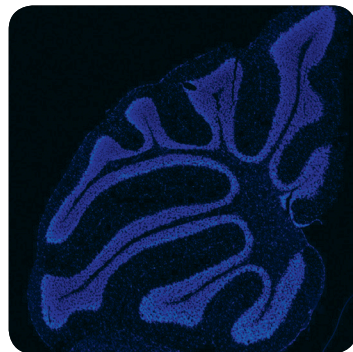
## CAPTURE AND SHARE PUBLISHABLE IMAGES IN TWO CLICKS!

A unique, all-in-one cell imager developed to generate publication-quality images of cells on tissue slides or in cell culture. Multi-fluorescent cell labeling can be easily performed by all biologists without extensive training. Cell transfection efficiency and cell culture confluency can be checked in a minute with installed applications.

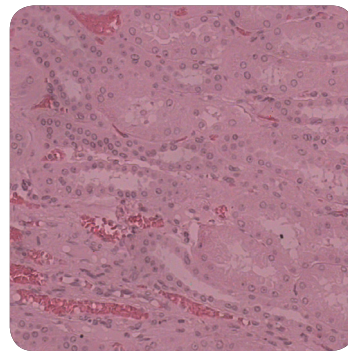
The InCellis® includes a unique, highly sensitive CMOS color sensor, a large touch screen, and patented illumination technology to generate high-resolution images.



*Transfected BPAAE cells  
(GFP, RFP, and DAPI F.L.M.)*



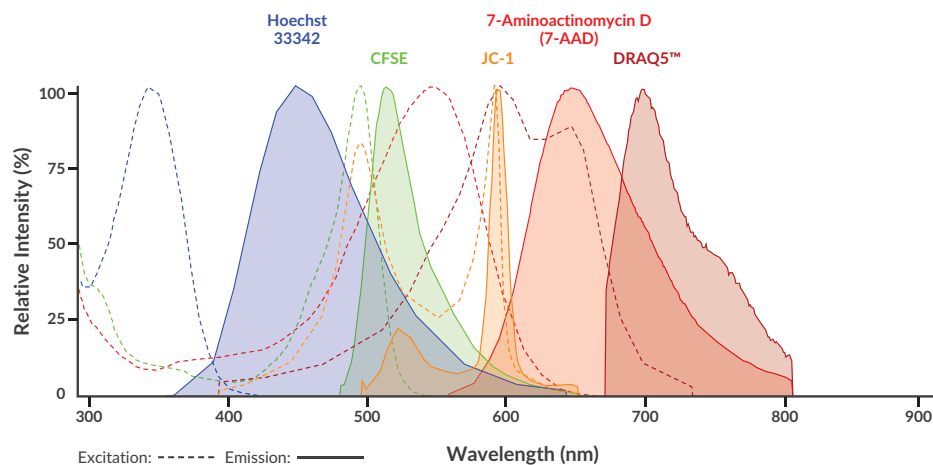
*Mouse cerebellum using DAPI  
for DNA staining*



*Human brain  
(transmitted light, color)*



# Fluorescent Probes



## Cell Viability, Cell Cycle, Cell Proliferation

Item No.	Product Name	Detects	Excitation Maximum (nm)	Emission Maximum (nm)
14338	Acridine Orange	cell cycle phase; pH	<ul style="list-style-type: none"> <li>■ 502 (dsDNA)</li> <li>■ 460 (ssDNA and RNA)</li> <li>■ 475 (low pH)</li> </ul>	<ul style="list-style-type: none"> <li>■ 525 (dsDNA)</li> <li>■ 650 (ssDNA and RNA)</li> <li>■ 590 (low pH)</li> </ul>
11397	7-Aminoactinomycin D	DNA; cell viability	■ 488, 546, 578	■ 650
14948	Calcein AM*	cell viability	■ 494	■ 517
20637	Calcein Blue AM*	cell viability	■ 360	■ 445
20635	Calcein Deep Red™ Acetate*	cell viability	■ 646	■ 659
20641	Calcein Orange™ Diacetate*	cell viability	■ 525	■ 550
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
16802	CFSE	cell proliferation	■ 494	■ 520
20695	CytoCalcein™ Violet 500	cell viability	■ 405	■ 500
20696	CytoTrace™ Orange CMTMR	cell division; cell trafficking; cell-to-cell interactions	■ 541	■ 565
20698	CytoTrace™ Red CMTPX	cell division; cell trafficking; cell-to-cell interactions	■ 577	■ 602
18781	DRAQ5™	DNA; cell proliferation	■ 647	■ 681
19774	DRAQ7™	DNA; cell viability	■ 599/644	■ 697
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	<ul style="list-style-type: none"> <li>■ 485 (monomer)</li> <li>■ - ■ 20-570 (aggregate)</li> </ul>	<ul style="list-style-type: none"> <li>■ 535 (monomer)</li> <li>■ 570-610 (aggregate)</li> </ul>
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)

## Hydrogen Sulfide

Item No.	Product Name	Excitation Maximum (nm)	Emission Maximum (nm)
11179	WSP-1	■ 465	■ 515
16929	WSP-5	■ 502	■ 525

## Protease Substrates

Item No.	Product Name	Detects	Excitation Maximum (nm)	Emission Maximum (nm)
14459	Ac-DEVD-AFC	caspase-3 activity	■ 400	■ 505
17051	Ac-LEHD-AFC	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
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)2Rh110	elastase activity	■ 485	■ 525
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)

## Neurons and Astrocytes

Item No.	Product Name	Detects	Excitation Maximum (nm)	Emission Maximum (nm)
21458	FFN-102 (trifluoroacetate salt)	dopaminergic neurons; dopamine transporter and vesicular monoamine transporter 2 activity (pH sensitive)	■ 340 (pH 5); 370 (pH 7.4)	■ 453
16953	Sulforhodamine 101	astrocytes; exocytosis	■ 586	■ 605

## Amyloid-β

Item No.	Product Name	Excitation Maximum (nm)	Emission Maximum (nm)
20476	Methoxy-X04	■ 750 (2-photon excitation)	■ - ■ 460-500
18520	NIAD-4	■ 475	■ 625

## 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
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)

## Calcium

Item No.	Product Name	Detects	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
20405	Fluo-3FF AM*	intracellular calcium (low affinity)	■ 506	■ 526
14591	Fura-2 AM*	intracellular calcium	■ 362 (low [Ca <sup>2+</sup> ]) ■ 335 (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> ])
15366	Fura-PE3 AM*	intracellular calcium (leak resistant)	■ 364 (no Ca <sup>2+</sup> ) ■ 335 (Ca <sup>2+</sup> -bound)	■ 508 (no Ca <sup>2+</sup> ) ■ 495 (Ca <sup>2+</sup> -bound)
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
20778	Rhod-2 (sodium salt)	calcium	■ 549 (Ca <sup>2+</sup> -free) ■ 552 (Ca <sup>2+</sup> -bound)	■ 581 (Ca <sup>2+</sup> -bound)
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

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## Sodium and Potassium

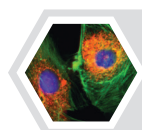
Item No.	Product Name	Detects	Excitation Maximum (nm)	Emission Maximum (nm)
21602	PBFI AM	intracellular potassium (cell permeable)	■ 336	■ - ■ 480-557
18764	SBFI AM	intracellular sodium (cell permeable)	■ 330-345 (low Na <sup>+</sup> ) ■ 370-390 (high Na <sup>+</sup> )	■ - ■ 450-550

## Membrane Voltage

Item No.	Product Name	Detects	Excitation Maximum (nm)	Emission Maximum (nm)
19541	Di-8-ANEPPS	transmembrane voltage; cell membranes	■ 467	■ 631
200280	DISBAC10	membrane depolarization	■ 540	■ 560

## pH

Item No.	Product Name	Detects	Excitation Maximum (nm)	Emission Maximum (nm)
17183	BCECF	pH	■ / ■ 440 / 490	■ 535
15922	BCECF AM	intracellular pH (cell permeable)	■ / ■ 440 / 490	■ 535
17409	3,6-diacetoxy Phthalonitrile	intracellular pH	■ 351	■ 450-476 (pH 5.0-10.0)



To view a complete list of our fluorescent probes, visit us online at [www.caymanchem.com](http://www.caymanchem.com)

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