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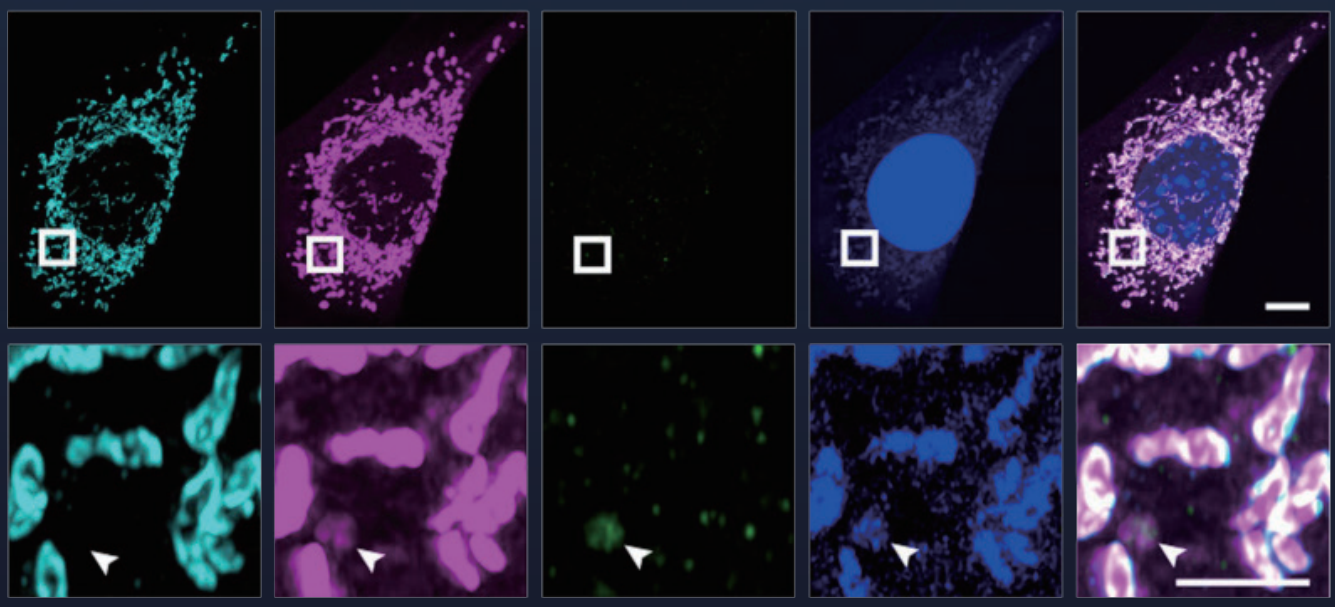
Cell Function Analysis

Blood Dye / Cancer Analysis Dye / Cytotoxicity Analysis Dye

Endocytosis and pinocytosis Dye / Nucleic Acid Dyes / Exosome Dye

NOS Dye / Apoptosis Dye / PH Indicators / Neuroscience Analysis Dye

ROS Dye / Other Analysis Dye



Formation of Mitochondrial Inner Membrane Vesicles

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Blood Dye

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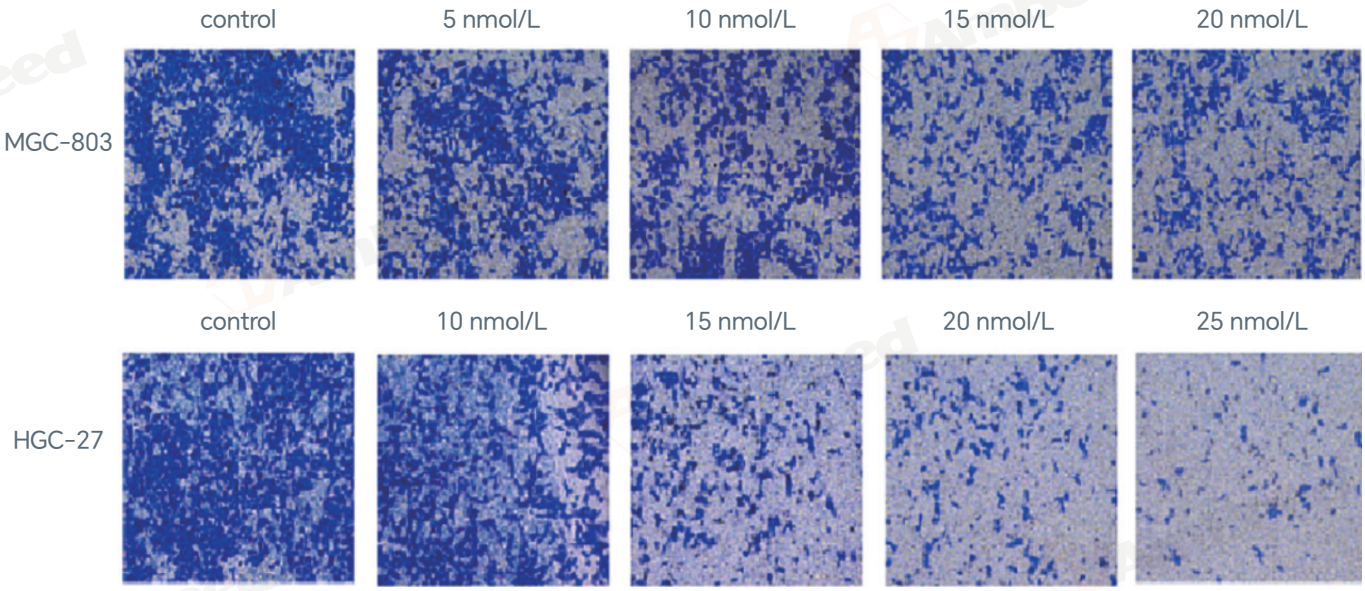
Blood dye typically refers to the staining of blood samples to observe and analyze various components of blood under a microscope, including plasma and blood cells. Blood dyes are chemical reagents used to stain cells in blood samples. Different dyes can reveal different characteristics of cells, helping to identify and classify different cell types and observe their morphology and internal structure.

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
Luminol sodium salt (Blue)	A187906	20666-12-0	425 nm	425 nm	Luminol sodium salt is the sodium salt of luminol, used for bioluminescence assays to detect peroxidase activity in whole blood samples. It can also be used for in vitro quantification of reactive oxygen species (ROS) in CD45+ and CD45- cells.
Luminol (Blue)	A166579	521-31-3	300-400 nm	425 nm	Luminol is a chemiluminescent compound sensitive to redox reactions, also known as luminescent amine. It can detect trace amounts of blood (Occult Blood) and is widely used in criminal investigations, bioengineering, and chemical tracing.

Experimental Example



Luminol staining of gastric cancer cells treated with different concentrations of MY-673[1].

[1] Bioorganic Chemistry, 2023, 137, 106580.

Cancer Analysis Dye

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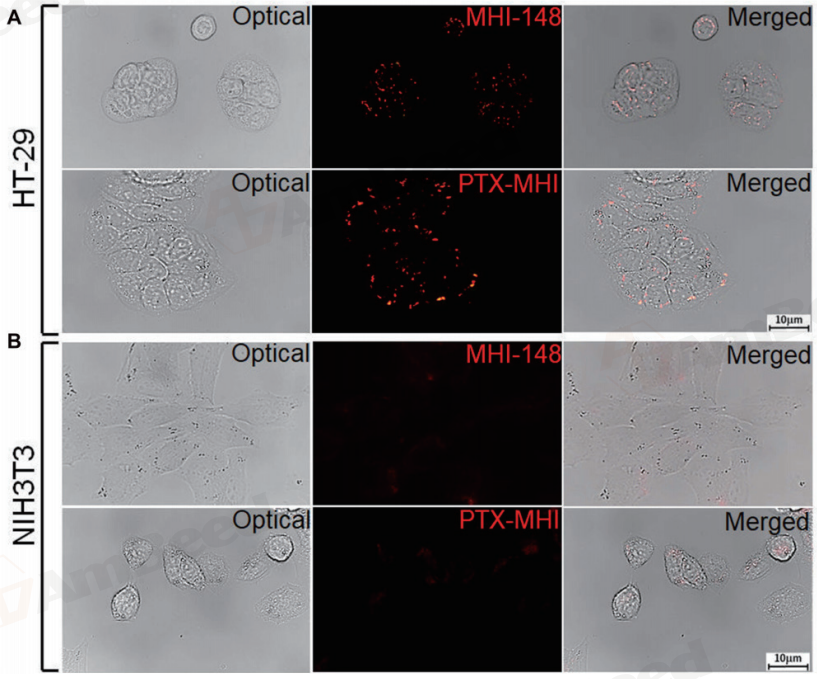
Tumor staining is a histological technique used to stain tissues with different dyes to detect tumor types, differentiation levels, karyotypic abnormalities, gene mutations, etc. Dyes used in cancer analysis are commonly applied for labeling and visualizing tumor cells or tissues, enabling researchers to observe tumor growth, metastasis, and therapeutic responses more effectively.

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
Zinc phthalocyanine (Blue)	A726791	14320-04-8	620 nm	N/A	Zinc phthalocyanine is widely used in industry as a catalyst and photoconductor, and in biomedical fields for photodynamic therapy (PDT).
Hexaminolevulinate HCl (Red)	A444075	140898-91-5	370-410 nm	635-670 nm	Hexaminolevulinate HCl, a porphyrin precursor, exhibits photosensitizer properties and is applicable in photodynamic therapy (PDT) for specific tumors.
MKT-077 (Green)	A670986	147366-41-4	488 nm	543 nm	MKT-077 is a water-soluble mitochondrial dye with notable anti-tumor effects and low cytotoxicity. It inhibits various human cancer cell lines, including colon, breast, and pancreatic cancer.
MHI-148 (Near Infrared)	A1362841	172971-76-5	N/A	N/A	MHI-148 is a near-infrared heptamethine cyanine dye with tumor-targeting properties used for cancer detection, diagnosis, and research. It rapidly accumulates in lysosomes and mitochondria of tumor cells, but not in normal cells.
Isosulfan blue (Blue)	A295767	68238-36-8	N/A	N/A	Isosulfan blue is a blue dye used to identify lymphatic vessels during lymphangiography. It is also used for sentinel lymph node biopsy in breast cancer patients.
Indigo Carmine (Blue)	A123673	860-22-0	N/A	N/A	Indigo Carmine, also known as indigotindisulfonate sodium, is a marker dye used in cystoscopy and ureteral catheterization. It is also used in endoscopy, lymph node and vascular embolization, and tumor localization.

Experimental Example

HT-29 cells treated with MHI-148 and PTX-MHI[1].



[1] Int. J. Nanomedicine, 2021, 16, 7169-7180.

Cytotoxicity Analysis Dye

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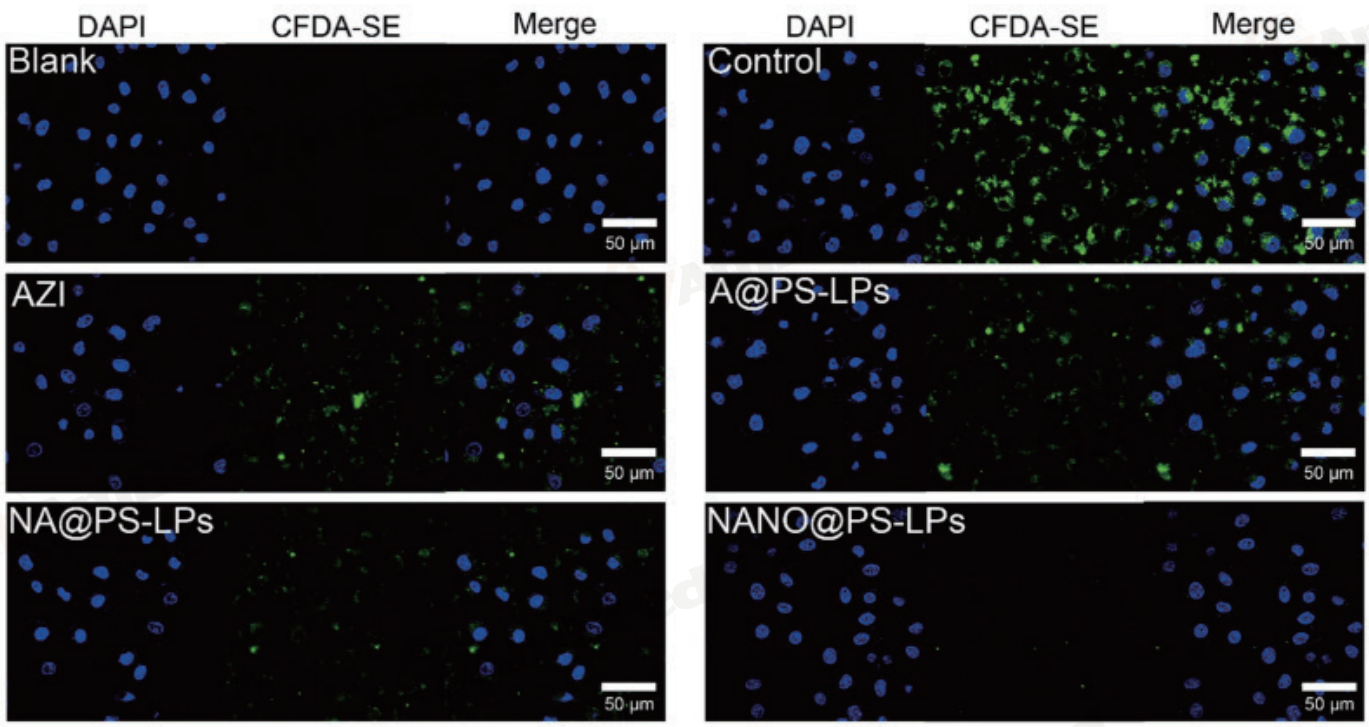
Cytotoxicity detection is a crucial assay for evaluating the effects of compounds, drugs, chemicals, or biological agents on cell growth and survival. The commonly used methods include the MTT assay, CCK-8 assay (containing WST-8), and live/dead dual staining for cell imaging, which provides a direct visualization of cell viability.

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
CFDA-SE (Green)	A1148024	150347-59-4	485 nm	515 nm	CFDA-SE is a fluorescent dye that can penetrate cell membranes and react with free amino groups in intracellular cytoskeletal proteins to form fluorescent protein complexes, which can be used to detect cell proliferation.
6-CFDA (Green)	A383451	3348-03-6	492 nm	517 nm	6-CFDA is an aliphatic fluorescein used to distinguish live and apoptotic cells. CFDA can freely diffuse into cells and is hydrolyzed by intracellular non-specific esterases to generate carboxyfluorescein (CF).
Resorufin sodium salt (Pink)	A770336	34994-50-8	571 nm	584 nm	Resorufin sodium salt is a highly fluorescent pink dye used for detecting ROS/RNS.
WST-8 (Orange-Yellow)	A427585	193149-74-5	460 nm	450 nm	WST-8 is a water-soluble tetrazolium dye used for colorimetric determination of cell proliferation or toxicity.

Experimental Example



DAPI (Blue) stains the nucleus, and live Pseudomonas aeruginosa is stained with CFDA-SE (Green)[1].

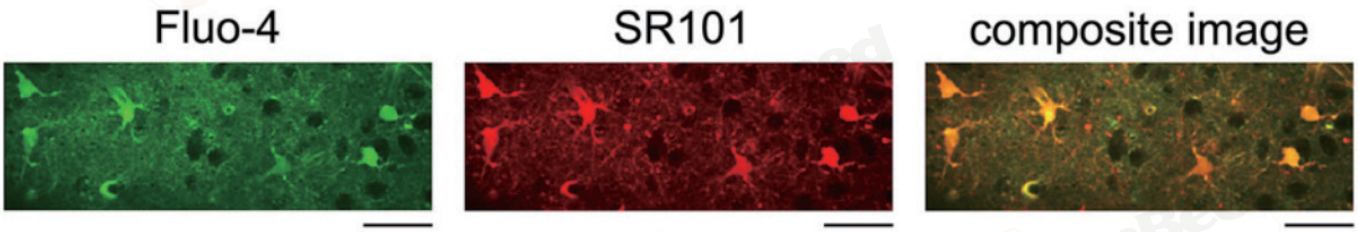
[1] Int. J. Pharm., 2022, 623, 121910.

Endocytosis and pinocytosis Dye

Phagocytosis involves cells engulfing particulate substances such as microbes, which is crucial for immune defense and the clearance of apoptotic cells. Indicators used in phagocytosis studies include BioParticles conjugates, which are bacteria and yeast labeled with fluorescent dyes. Endocytosis is the internalization of non-particulate substances such as proteins and polysaccharides, essential for cellular metabolism and signal transduction. Fluorescent proteins and organic dyes are the most effective indicators for staining vesicle membranes and their contents. Receptor internalization refers to the process by which cells internalize surface receptors or other molecules through endocytosis. This mechanism plays a key role in cell signaling, immune response, and metabolism. A common method for studying receptor internalization is labeling with fluorescent dyes followed by specific or non-specific detection.

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
Texas Red (Red)	A678873	60311-02-6	586 nm	605 nm	Texas Red (Sulforhodamine 101) is a red fluorescent dye and a water-soluble zwitterionic rhodamine and widely used for labeling astrocytes, quantitative PCR, and measuring tissue damage rates.

Experimental Example



Field of view (FOV) labeled with Fluo-4 and SR101 (Texas Red), imaged 200 μm below the cortical surface[1].

[1] J. Neurosci., 2013, 33(19): 8411-8422.

Nucleic Acid Dyes

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Nucleic acid dyes are a class of stains that bind to nucleic acid molecules, making them visible under an optical microscope. These dyes bind specifically to DNA or RNA molecules, emitting strong fluorescent signals, thereby enabling precise localization and observation of nucleic acids in cells or tissues. Common types of nucleic acid dyes include fluorescent dyes, biotinylated dyes, and enzyme-labeled dyes.

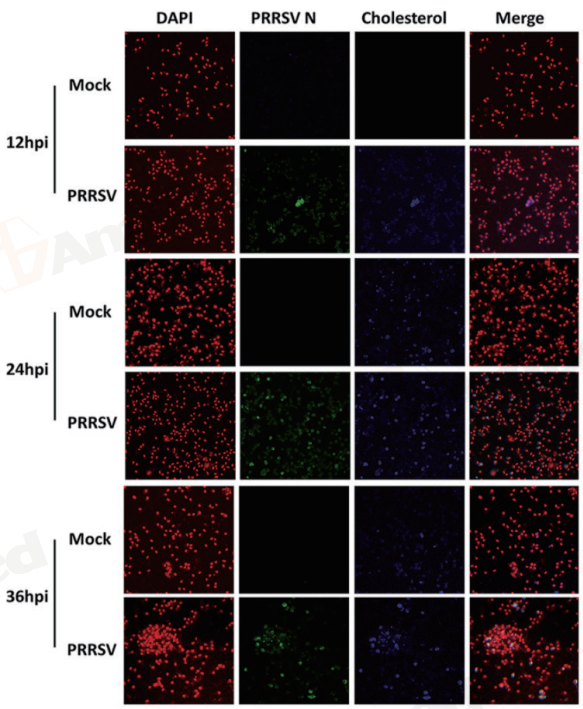
Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
6-FAM (Green)	A135997	3301-79-9	489 nm	523 nm	6-FAM (6-Carboxyfluorescein) is widely used in nucleic acid sequencing and labeling. It has been applied in assessing plasma membrane integrity in sperm cells.
LDS-751 (Green)	A725258	181885-68-7	488 nm	515 nm	LDS-751 is a nucleic acid dye primarily used for DNA detection. The fluorescence intensity of this dye increases significantly upon binding to DNA. Studies indicate that when incubated with nucleated viable cells, it binds almost exclusively to mitochondria.
6-ROX (Bright Red)	A456917	194785-18-7	568 nm	585 nm	6-ROX (6-Carboxy-X-rhodamine) is a purified single isomer of 5(6)-ROX, widely used for oligonucleotide labeling and automated DNA sequencing.
5(6)-TAMRA (Orange)	A559208	98181-63-6	520 nm	600 nm	5(6)-TAMRA is a fluorescent label used to track the distribution of molecules such as cell-penetrating peptides (CPPs) within cells.
Propidium Iodide (Red)	A795950	25535-16-4	535 nm	615 nm	Propidium Iodide is a nuclear stain used for DNA staining, particularly for detecting apoptosis. It emits red fluorescence upon binding to double-stranded DNA.
Orcinol (Purple)	A412104	504-15-4	670 nm	695 nm	Orcinol (3,5-Dihydroxytoluene) is an organic compound widely used in biological dyes and proteomics research.
Thiazole Orange (Orange)	A436932	107091-89-4	510 nm	527 nm	Thiazole Orange is an asymmetric cyanine dye that can bind to oligonucleotides to prepare fluorescent hybridization probes. This dye is widely used in biomolecular detection, DNA/RNA gel staining, and reticulocyte analysis.
DFHBI-1T (Green)	A1143516	1539318-36-9	472 nm	507 nm	DFHBI-TT is a transmembrane fluorescent probe specifically activated when bound to RNA aptamers (such as Spinach, Spinach2, Spinach, and Broccoli). This probe produces specific fluorescent signals and low background fluorescence when bound to RNA aptamers, making it suitable for RNA imaging in live cells.
6-HEX (Orange-Yellow)	A297995	155911-16-3	532 nm	556 nm	6-HEX can be used to label nucleic acid sequences for designing fluorescent primers. Nucleic acids labeled with 6-HEX can be identified by laser irradiation at 543 nm and detected within the emission spectrum range of 550 nm and 650 nm (bandwidth of 5 nm), enabling gene localization in complex tissues or heterogeneous cell populations.
DMA (Blue)	A751117	188860-26-6	340 nm	478 nm	DMA can be used to detect methylation in specific regions of DNA sequences. It can be used in conjunction with buffer solutions or restriction enzyme-based techniques for sample testing.
6-Carboxy-X-rhodamine, succinimidyl ester (Bright Red)	A103351	216699-36-4	578 nm	602 nm	6-Carboxy-X-rhodamine, succinimidyl ester (6-ROX, SE) is a fluorescent labeling dye specifically used for oligonucleotide labeling and automated DNA sequencing.
1-Pyrenebutyric acid (Red)	A571530	3443-45-6	341 nm	376 nm	1-Pyrenebutyric acid is a fluorescent probe that can be used for DNA fluorescence assays. Additionally, it can serve as a linker for biomolecules to form self-assembled monolayers on graphene.
2-Aminopurine (Yellow)	A141288	452-06-2	323 nm	482 nm	2-Aminopurine is a fluorescent analog of guanosine and adenosine, widely used as a DNA structural probe based on fluorescence decay.

Nucleic Acid Dyes

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
1,8-Diazafluoren-9-one (Red)	A643591	54078-29-4	470 nm	570 nm	1,8-Diazafluoren-9-one (DFO) is a fluorescent dye that can detect latent fingerprints on porous surfaces with high sensitivity. DFO can also form highly fluorescent derivatives with amino acids.
Dabsyl chloride	A272423	56512-49-3	N/A	N/A	Dabsyl chloride is an amine derivative capable of forming stable products. Additionally, it can be used for labeling amino acids.
Dabcyl acid	A389198	6268-49-1	N/A	N/A	Dabcyl acid is a nucleic acid probe and one of the earliest dark fluorescent quenchers. It can be used as a fluorescent dye and is widely applied in various research areas, including fluorescence microscopy, fluorescence spectroscopy, and fluorescence imaging.
1-Methyl-7-nitroisatoic anhydride	A228759	73043-80-8	N/A	N/A	1-Methyl-7-nitroisatoic anhydride (1M7) is a reagent used for detecting local nucleotides. It is employed in RNA SHAPE-MaP experiments for analyzing RNA structure in living cells with single-nucleotide resolution.
Acriflavine (Orange-Yellow)	A1475625	8048-52-0	412 nm	430 nm	Acriflavine is a fluorescent dye used to label high-molecular-weight RNA. Additionally, it has local antiseptic properties.
3,6-Dichlorotrimellitic anhydride	A187969	81742-10-1	N/A	N/A	3,6-Dichlorotrimellitic anhydride is a key precursor reagent for synthesizing various dichlorofluorescein and rhodamine dyes (such as TET and HEX), which are widely used in oligonucleotide labeling and DNA sequencing.
Pyronin Y (Red)	A353427	92-32-0	488 nm	525 nm	Pyronin Y is a cationic dye that intercalates into RNA and forms fluorescent complexes upon binding to double-stranded nucleic acids, particularly RNA. This enables semi-quantitative analysis of RNA in cells. Additionally, Pyronin Y can be used to identify specific RNA subtypes within ribonucleoprotein complexes in living cells.

Experimental Example

Cell nuclei stained red with Propidium Iodide[1].



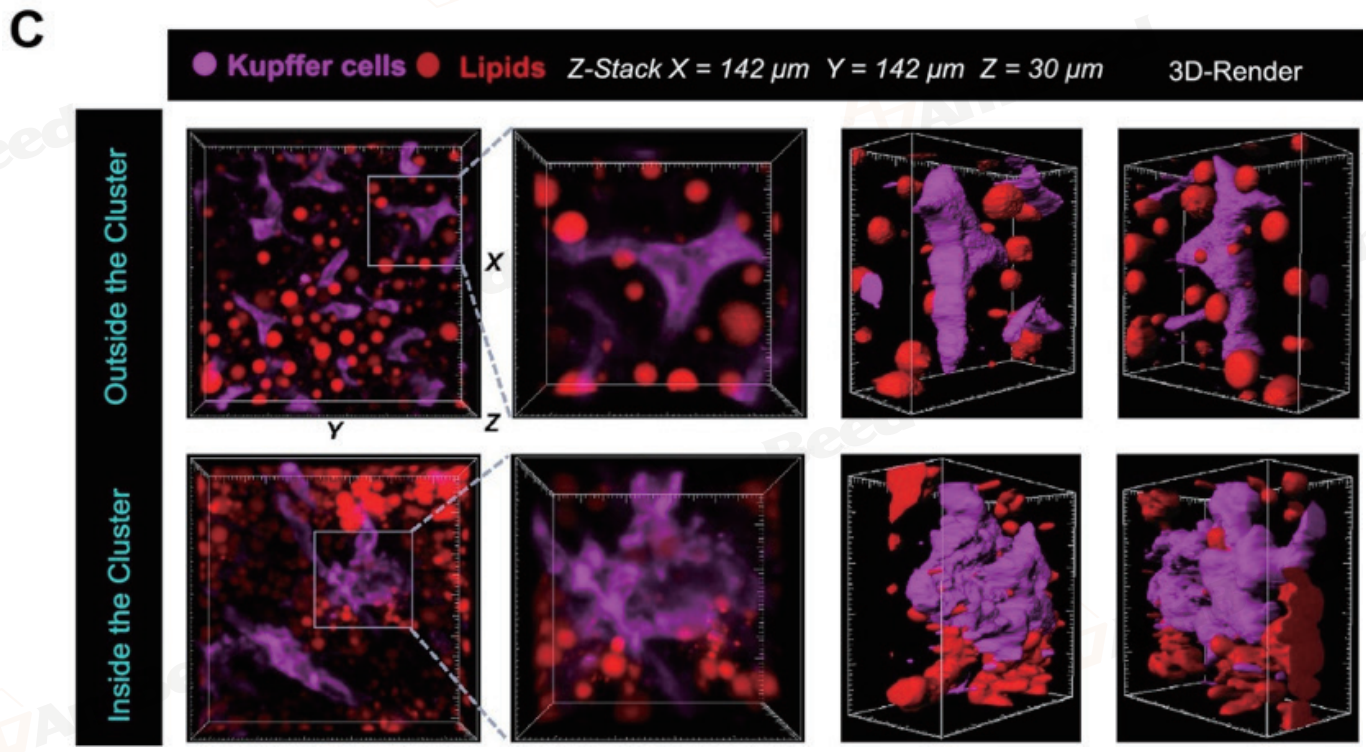
[1] Redox Biology, 2022, 49, 102207.

Exosome Dye

Exosomes are small vesicular membranes (30-150 nm in diameter) containing complex RNA and proteins, secreted by all cell types. They play a role in intercellular communication, substance transport, and maintaining physiological processes, and are also involved in disease pathogenesis. Various labeling methods for exosomes include lipophilic dyes and membrane-permeable compounds.

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
CFDA-SE (Green)	A1148024	150347-59-4	492 nm	517 nm	CFDA-SE is a cell membrane-permeable fluorescent dye that labels cells by covalently binding to intracellular molecules. It can be used for cell staining, especially immune cells, for analysis in applications such as flow cytometry. CFDA-SE dye is also useful for detecting cell proliferation.
Nile Red (Red)	A819053	7385-67-3	559 nm	635 nm	Nile Red is a lipophilic fluorescent dye that can stain and visualize lipid droplets in cells and tissues. Its fluorescence is enhanced in lipid-rich environments, while it fluoresces very weakly in aqueous media.

Experimental Example



Lipids in Kupffer cells labeled with Nile Red (Red)[1].

[1] Theranostics, 2021, 11(5), 2149-2169.

NOS Dye

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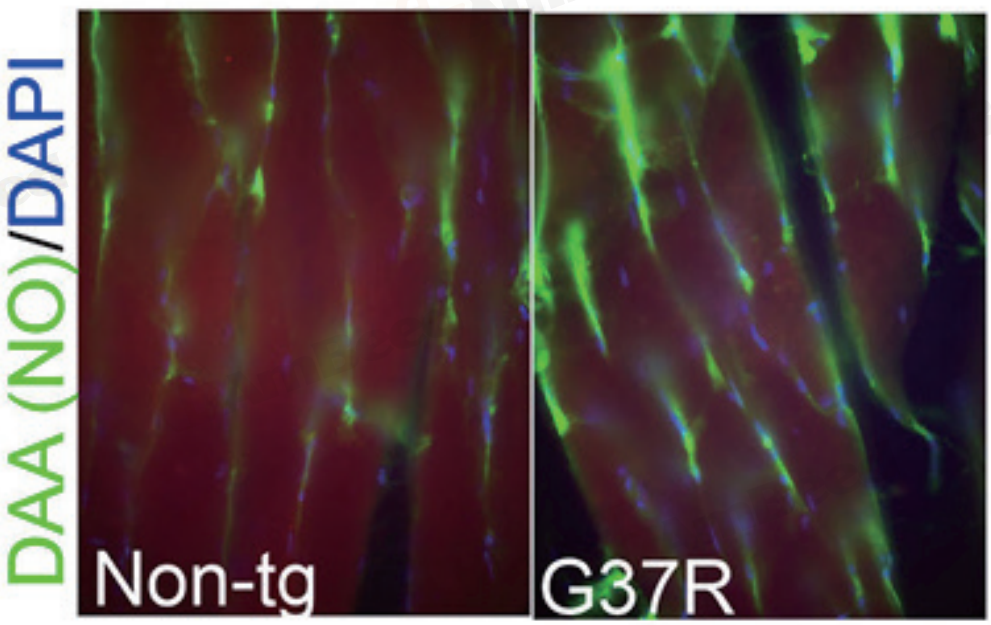
Nitric Oxide Synthase (NOS) is a group of enzymes that catalyze the oxidation of L-arginine to produce nitric oxide (NO) and L-citrulline. NO acts as a neurotransmitter in the central and peripheral nervous systems, a messenger between living cells, and a mediator of endothelium-derived vasodilation, playing a broad role in the nervous, cardiovascular, and immune systems. There are three isoforms of NOS: neuronal NOS (nNOS), endothelial NOS (eNOS), and inducible NOS (iNOS). NOS dyes refer to fluorescent dyes or staining agents used to detect and quantify NOS activity.

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
1,2-Diaminoanthraquinone (Green)	A482760	1758-68-5	485 nm	538 nm	1,2-Diaminoanthraquinone (DAQ or DAA) is a sensitive and specific fluorescent probe for nitric oxide (NO), used to detect NO production in living cells and animals. The reaction product between DAQ and NO is a triazole that exhibits red fluorescence.
2,3-Diaminonaphthalene (Blue)	A100422	771-97-1	364 nm	406 nm	2,3-Diaminonaphthalene (DAN) is used to detect NO production in living cells and animals. It can be used for the fluorescence determination of nitrite/nitrate and reacts with nitrite to form a fluorescent 1H-naphthalimidazole, which can be detected by spectrophotometry to determine the presence of selenium.

Experimental Example



After injecting DAA into the gastrocnemius muscle of non-transgenic (Non-tg) and G37R-hSOD1 transgenic mice, in vivo nitric oxide production was tracked (Green)[1].

[1] Frontiers in Neurology, 2020, 592851.

Apoptosis Dye

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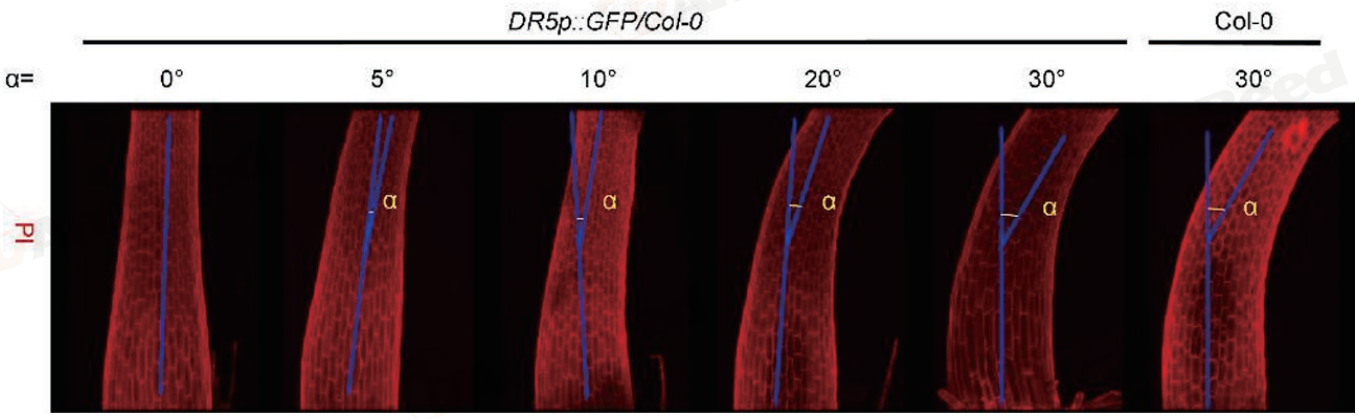
Apoptosis, also known as programmed cell death, is an orderly process of cell death controlled by internal cellular programs. During apoptosis, cells undergo a series of typical morphological changes, such as chromatin condensation, marginalization, nucleic acid cleavage, and cytoplasmic condensation. Apoptosis dyes are a class of fluorescent dyes used to detect specific changes during the apoptosis process. Commonly used fluorescent dyes include annexin V-FITC/PI and DAPI.

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
Propidium Iodide (Red)	A795950	25535-16-4	536 nm	617 nm	Propidium Iodide (PI) is a commonly used nuclear (DNA) staining reagent. As an analog of ethidium bromide, it emits red fluorescence after intercalating into double-stranded DNA. It can't penetrate the membranes of living cells but can penetrate the damaged membranes of late apoptotic and dead cells, staining the nucleus red.
Calcein-AM (Green)	A279082	148504-34-1	495 nm	515 nm	Calcein-AM is a non-fluorescent molecule that penetrates cell membranes and is hydrolyzed by intracellular esterases to form calcein, which is retained within the cell and emits strong green fluorescence. It stains only living cells and is often used in combination with PI for dual staining of living and dead cells.
JC-1 (Green/Red)	A659203	3520-43-2	488 nm	530 nm	JC-1 is an ideal fluorescent probe for detecting mitochondrial membrane potential (ΔΨm). At low membrane potential, it exists as a green fluorescent monomer. In contrast, it forms red fluorescent "J-aggregates," exhibiting a broad excitation and a very narrow emission spectrum at higher potential.
Diphenyl Blue (Blue)	A621935	72-57-1	N/A	N/A	Diphenyl Blue is a cell viability dye used in the trypan blue exclusion assay/cell viability assay to detect dead cells. Normal, viable cells with intact cell membranes can exclude trypan blue and do not appear blue, whereas dead cells or those with compromised membranes take up the dye and appear blue.

Experimental Example



Propidium Iodide (PI) staining of Arabidopsis seedling cell walls (red) to observe the morphology and structure of the apical hook[1].

[1] J Integr Plant Biol., 2022, 64(1), 5-22.

PH Indicators

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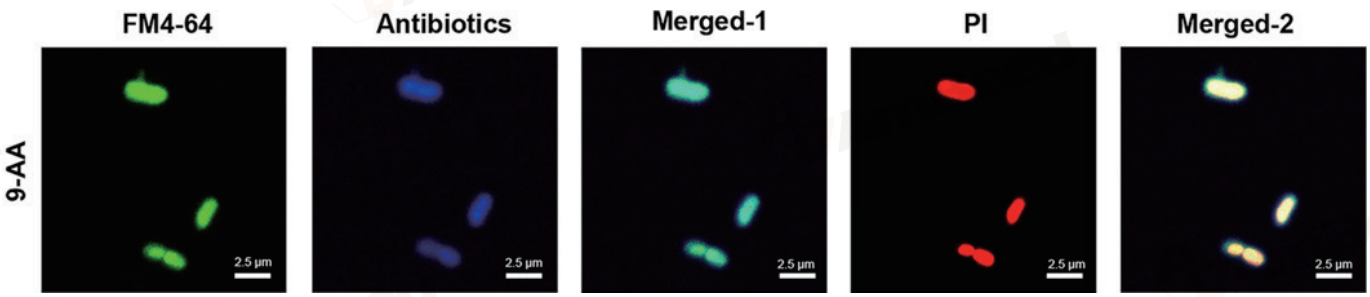
pH indicators, also known as acid-base indicators, are weak acids or bases that contain pigments and change color when they interact with H^+ or OH^- ions in a solution, converting them into their acidic or basic forms. The intracellular pH in the cytosol is typically around 6.8–7.4, while the pH in acidic organelles usually ranges from 4.5 to 6.0. AmBeed offers a range of pH indicators.

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
Indigo Carmine (Blue)	A123673	860-22-0	N/A	N/A	Indigo Carmine is an indicator for measuring ozone (CL). It accumulates in crevices, cysts, and maculae, staining tissues blue. Abnormal tissues remain translucent pink.
Pyranine (Green)	A218894	6358-69-6	450 nm	510 nm	Pyranine (HPTS, Solvent Green 7) is a pH-sensitive fluorescent indicator used to prepare highly fluorescent aqueous polyurethane (WPU) matrices and fluorescent chemical sensors for Cu^+ ions.
Thymolphthalein (Blue in base)	A746205	125-20-2	N/A	N/A	Thymolphthalein is an acid-base indicator that is colorless in acidic conditions and deep blue in alkaline conditions. Its acidic form retains hydrogen on each hydroxyl group.
Phenol Red (Yellow in acid, Red in base)	A122951	143-74-8	N/A	N/A	Phenol Red is a pH indicator that changes color from yellow to red. In weakly acidic aqueous solutions, it exists as a sulfonated hydroxyquinone. In alkaline solutions, it forms a hydrophilic divalent anion (a small red anion with a larger conjugated system than the yellow hydroxyquinone).
9-Aminoacridine (Blue-green at physiological pH)	A2670780	90-45-9	N/A	N/A	9-Aminoacridine is an aminoacridine dye that serves as a pH indicator and an effective mutagen for viruses and bacteria. It is used for the quantitative determination of transmembrane pH gradients (acidic interior) and is also an antibacterial agent, HIV-1 inhibitor, and rifampicin (RIF; HY-B0272) adjuvant.

Experimental Example



Fluorescence microscopy image of Klebsiella pneumoniae ATCC 700603 treated with 9-AA, co-stained with membrane dye FM4-64 (green), nuclear dye PI (red), and antibiotic 9-AA (deep blue)[1].

[1] Microbiol Spectr., 2023, 11(3), e0447422.

Neuroscience Analysis Dye

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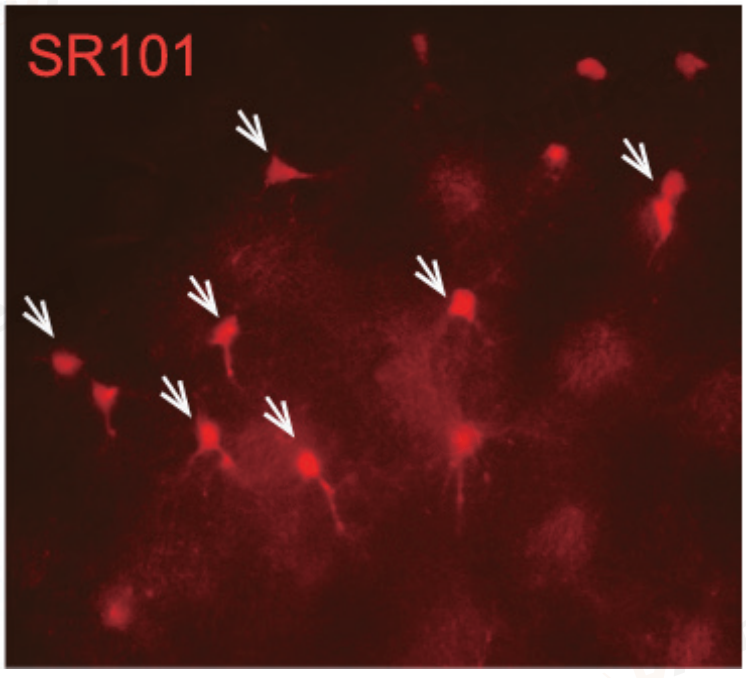
In neuroscience research, dyes help researchers observe and analyze neuronal activity and neurotransmitter release, playing a crucial role in revealing the structure and function of the nervous system.

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
Texas Red (Red)	A678873	60311-02-6	586 nm	605 nm	Texas Red is a red fluorescent dye, water-soluble zwitterionic rhodamine, widely used to study neuronal morphology and specifically label neocortical astrocytes.
OG 488, SE (Green)	A1246520	198139-51-4	488 nm	512 nm	OG 488, SE is a fluorescein-based green fluorescent dye and a pH indicator used in biochemistry and neuroscience.
Cresyl Violet acetate (Red)	A900422	10510-54-0	601 nm	632 nm	Cresyl Violet acetate is a red fluorescent dye used for sex chromatin staining and Helicobacter identification and as an essential dye for endoscopic examination in diagnostic applications. It has also been used for Nissl staining in spinal cord and brain tissue sections.
Leucomethylene blue mesylate (Blue)	A611795	1236208-20-0	665 nm	686 nm	Leucomethylene Blue Mesylate (TRX-0237 Mesylate) is an orally active second-generation tau protein aggregation inhibitor used in Alzheimer's disease research.
CRANAD-28 (Green)	A1210636	1623747-97-6	498 nm	578 nm	CRANAD-28 is a fluorescent reagent that can display amyloid plaques, labeling plaques, and cerebral amyloid angiopathy.
Methylene Blue (Blue)	A151225	61-73-4	668 nm	688 nm	Methylene Blue is a soluble guanylate cyclase (sGC), monoamine oxidase A (MAO-A), and NO synthase (NOS) inhibitor. It is also a commonly used dye in medical experiments, reducing brain edema, microglial activation, and neuroinflammation.

Experimental Example

Hippocampal slice with astrocytes labeled by Texas Red (Sulforhodamine 101)[1].

[1] Neuropharmacology, 2022, 217, 109191.



ROS Dye

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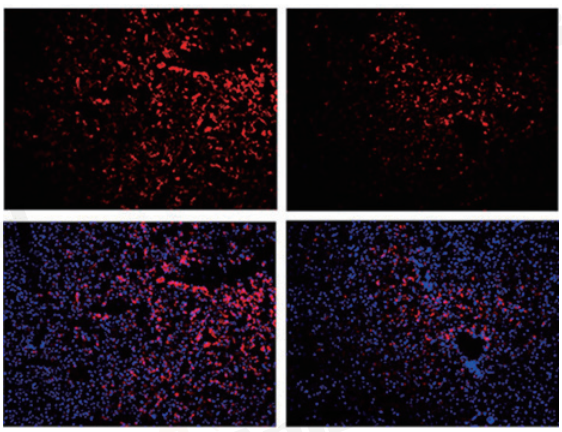
Reactive Oxygen Species (ROS) are highly reactive oxygen-containing compounds produced during normal oxidative metabolism in organisms, including superoxide anion (O^{2-}), hydrogen peroxide (H_2O_2), hydroxyl radical (•OH), ozone (O_3), and singlet oxygen ($^1O_2$). ROS dyes are fluorescent dyes used to detect and quantify these reactive oxygen species. They produce fluorescent signals upon oxidation, enabling the measurement of ROS in experiments.

Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
Benzenepentacarboxylic Acid (Blue)	A427402	1585-40-6	395nm	440 nm	Benzenepentacarboxylic Acid (pentacarboxybenzoic acid) is a fluorescent dye with the ability to detect and scavenge hydroxyl (HO·) radicals. It is used to detect the generation of HO· in alkaline H_2O_2/TAED and H_2O_2/TBCC systems.
1,3-Diphenylisobenzofuran (Green)	A425113	5471-63-6	495 nm	523 nm	1,3-Diphenylisobenzofuran is a selective fluorescent dye with high specificity for singlet oxygen ($^1O_2$). It forms endoperoxides and decomposes into 1,2-dibenzoylbenzene, used for detecting the generation of reactive oxygen species
2',7'-Dichlorofluorescein (Green)	A864353	76-54-0	496 nm	525 nm	2',7'-Dichlorofluorescein is an oxidation-sensitive fluorescent probe used to measure the formation of reactive oxygen species (ROS) in cells.
2',7'-Dichlorofluorescein diacetate (Green)	A196793	2044-85-1	504 nm	524 nm	2',7'-Dichlorofluorescein diacetate is a cell-permeable redox probe primarily used for detecting the formation of reactive oxygen species (ROS) intermediates and quantifying oxidative stress in cells.
Dihydroethidium (Red)	A286650	104821-25-2	370 nm	420 nm	Dihydroethidium (DHE) is a fluorescent indicator used to detect peroxides. It can directly label living cells, penetrate cell membranes, and bind to intracellular proteins to emit blue fluorescence. Upon dehydrogenation, it binds to RNA or DNA to produce red fluorescence.
Dihydrofluorescein diacetate (Green)	A192744	35340-49-9	518 nm	616 nm	Dihydrofluorescein diacetate is a fluorescent probe used to measure oxidative stress in cell-free systems and cellular models. It can detect the presence of reactive oxygen species (ROS) in mitochondria.
ADHP (Red)	A501086	119171-73-2	530 nm	590 nm	ADHP is a fluorescent probe used to detect peroxidase. In the presence of horseradish peroxidase (HRP), ADHP reacts to produce the strongly red fluorescent substance Resorufin.
Diphenyl-1-pyrenylphosphine (Blue)	A252689	110231-30-6	351 nm	380 nm	Diphenyl-1-pyrenylphosphine (DPPP) is a fluorescent peroxide-reactive probe also used as a fluorescent probe to detect low-density lipoproteins and cellular oxidation.
BODIPY 581/591 C11 (Green)	A1499986	217075-36-0	581 nm	591 nm	BODIPY 581/591 C11 is a fluorescent emission probe used to detect reactive oxygen species (ROS) in the cytoplasm and cell membrane or to react with hydroxyl radicals. It is a commonly used reagent in ferroptosis research. The probe itself exhibits red fluorescence, which shifts to green fluorescence upon lipid binding.
DHBS	A601983	54970-72-8	N/A	N/A	DHBS, when used in combination with 4-aminoantipyrine (4-AAP) and hydrogen peroxide (H_2O_2), can be applied for the colorimetric quantification of peroxidase in enzyme-catalyzed reactions. It is a component of the Trinder reagent, capable of measuring the generation of hydrogen peroxide in conjunction with peroxidase.

Experimental Example

Dihydroethidium (red) detecting ROS generation in liver tissue[1].



[1] Cell Death and Disease, 2020, 11, 256.

Other Analysis Dye

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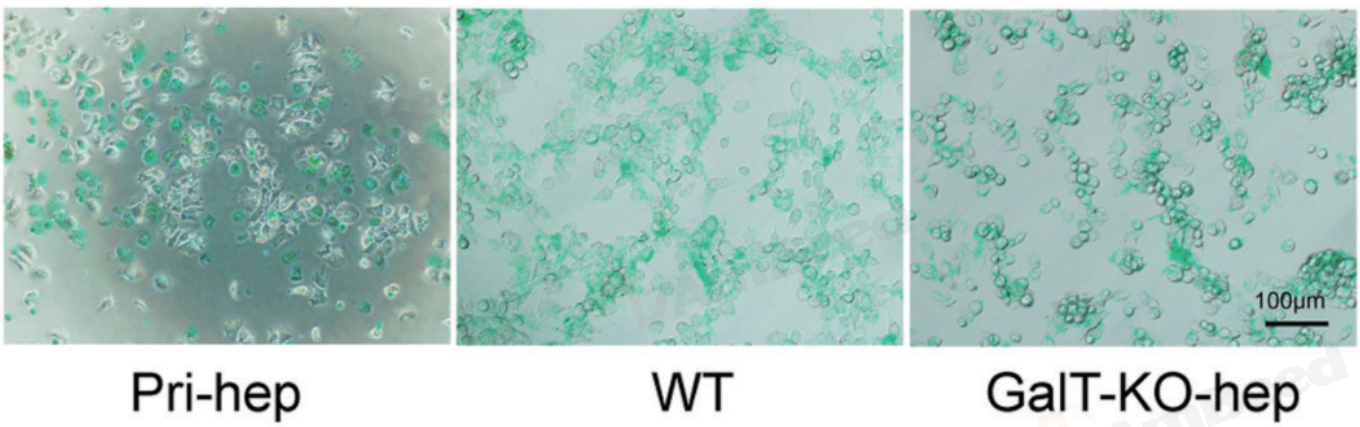
Product Name/Color	Cat. No.	CAS	Excitation (Ex)	Emission(Em)	Description
2-Aminoacridone (Green)	A674902	27918-14-5	428 nm	525 nm	2-Aminoacridone is a fluorophore commonly used to label unsaturated disaccharides. It can be used to detect glycan compounds at the picomolar level.
Ru(ddp) (Orange)	A879638	36309-88-3	455 nm	613 nm	Ru(ddp) can be used as a luminescent probe to study the binding interactions of biomolecules, DNA, and other polymers using its luminescent properties. Its applications also extend to the development of new photophysical materials, including luminescent devices and sensors.
Indocyanine Green (Dark Green) (Near Infrared)	A201360	3599-32-4	785 nm	813 nm	Indocyanine Green is a low-toxicity fluorescent dye widely used in medical diagnostics, including assessing cardiac output, liver function, liver blood flow, and ophthalmic angiography.
Dansyl Chloride (Blue or Blue-Green)	A2668058	605-65-2	372 nm	N/A	Dansyl Chloride reacts with primary amines of aliphatic and aromatic amines to form stable blue or blue-green fluorescent sulfonamide adducts. It is widely used in amino acid modification, protein sequencing, and amino acid analysis.

Experimental Example



Cytoplasm of pri-hep, WT, and GalT-KO-hep stained with Indocyanine Green[1].

[1] Xenotransplantation, 2020, 27(1): e12550.

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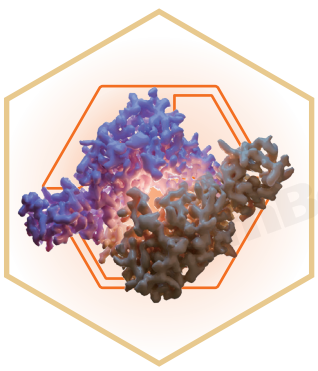

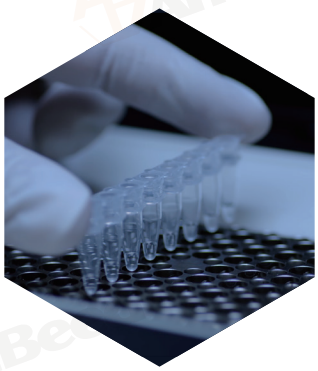

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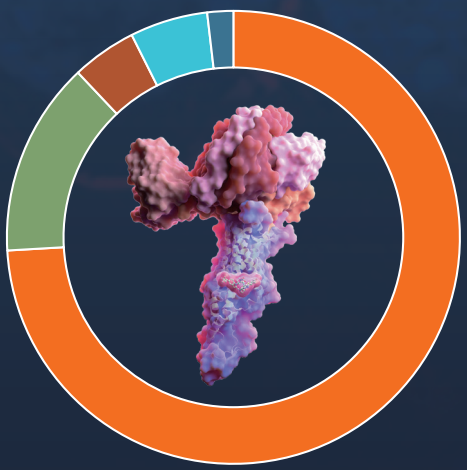

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