Long-term Live Cell imaging

TraKine™ Cell Staining Kits

Full portfolio for staining of cell and organelles including Tubulin, Mitochondrion, Lysosome, Nuclei, Plasma Membrane and so on.

Live-cell imaging technique allows real-time examination of almost every aspect of cellular function under normal and experimental conditions, so it is especially popular with cytology researchers.

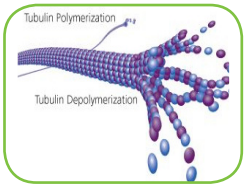
Abbkine TraKine™ Pro is a series of cell-permeable organic fluoresent probes which can selectively recognize and label organelles. Abbkine TraKine™ staining kits are a set of fluorescence imaging tools to label cells and organelles, suitable for various fluorescence platforms.

- TraKine™ Pro with super resolution
  Tubulin, Lysosome, Mitochondrion, Nuclei
- TraKine™ conventional cell staining
  Cell, Mitochondrion, Plasma Membrane, F-actin

Abbkine

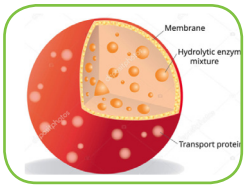
TraKine™ Pro Live-cell Staining kits with Super Resolution

Abbkine TraKine™ Pro is a series of long-term super-resolution cell staining portfolio for labeling subcellular structures of live and fixed cells. Unique TraKine™ Pro dyes, combined with super-resolution microscopes (such as SIM, STED, TIRF, STORM and PALM), are perfectly for observing cell dynamics and three-dimensional structure of living cells.



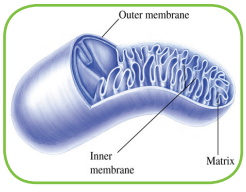
TraKine™ Pro Live-cell Tubulin Staining kit

Tubulin is the major building block of microtubules, which is present in almost all the eukaryotic cells. Microtubules function as structural and mobile elements in mitosis, intracellular transport, flagellar movement, and in cytoskeleton. Tubulin is a heterodimer, which consists of a-tubulin and b-tubulin; both subunits have a molecular weight of 55 kDa and share considerable homology.



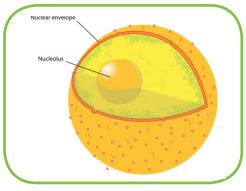
TraKine™ Pro Live-cell Lysosome Staining kit

Lysosome is a membrane-bound organelle found in many animal cells and most plant cells. They are spherical vesicles which contain hydrolytic enzymes that can break down many kinds of biomolecules. Besides degradation of polymers, the lysosome is involved in various cell processes, including secretion, plasma membrane repair, cell signaling, and energy metabolism.



TraKine™ Pro Live-cell Mitochondrion Staining kit

The mitochondrion is a double-membrane-bound organelle found in most eukaryotic organisms. In addition to supplying cellular energy, mitochondrion is involved in other tasks, such as signaling, cellular differentiation, as well as maintaining control of the cell cycle and cell growth. Mitochondrion has been implicated in several human diseases, including mitochondrial disorders, cardiac dysfunction, etc.



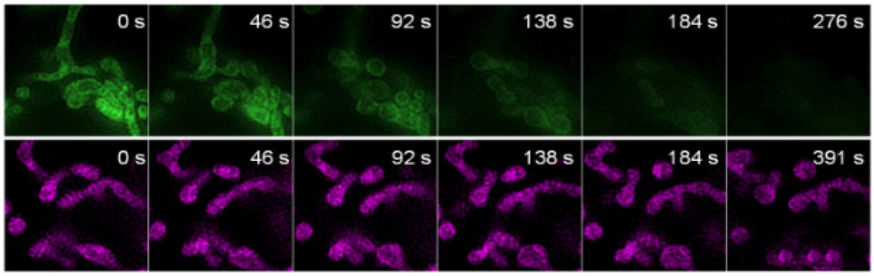
TraKine™ Pro Live-cell Nuclei Staining kit

Nuclei is a membrane-bound organelle found in eukaryotic cells. It contains most of the cell's genome, organized as multiple long linear DNA molecules in a complex with a large variety of proteins, such as histones, to form chromosomes. The nuclei maintains the integrity of genes and controls the activities of the cell by regulating gene expression, which is the control center of the cell.

Product Name	Target	Cat. No.	Ex/Em (nm)	Application	Size
TraKine™ Pro Live-cell Tubulin Staining kit (Green Fluorescence with Super Resolution)	Tubulin	KTC4100	500/520	Live cells	50/250/1000T
TraKine™ Pro Live-cell Lysosome Staining kit (Deep Red Fluorescence with Super Resolution)	Lysosome	KTC4210	650/665	Live and fixed cells	50/250/1000T
TraKine™ Pro Live-cell Lysosome Staining kit (Orange Fluorescence with Super Resolution)	Lysosome	KTC4220	565/590	Live and fixed cells	50/250/1000T
TraKine™ Pro Live-cell Mitochondrion Staining kit (Deep Red Fluorescence with Super Resolution)	Mitochondrion	KTC4300	647/661	Live and fixed cells	50/250/1000T
TraKine™ Pro Live-cell Nuclei Staining kit (Deep Red Fluorescence with Super Resolution)	Nuclei	KTC4510	650/665	Live and fixed cells	50/250/1000T

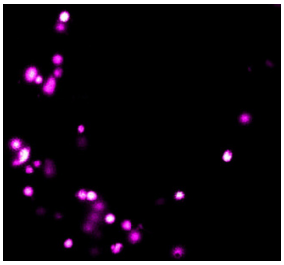
TraKine™ Pro probes with good performance compared with other commercial dyes

MitoTracker® Green (ThermoFisher)

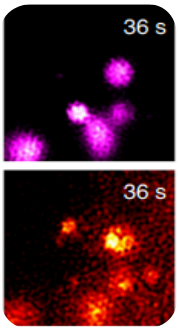


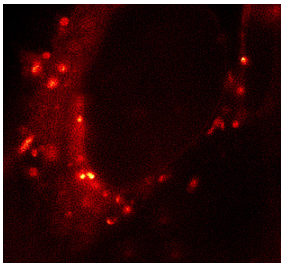
TraKine™ Pro MitoRed™ (Abbkine)

The time-lapse pictures above are obtained by SIM imaing in live U2OS cells. Compared with MitoTracker® dyes, TraKine™ series show better performance, especially suitable for tracking the dynamics of live cells.



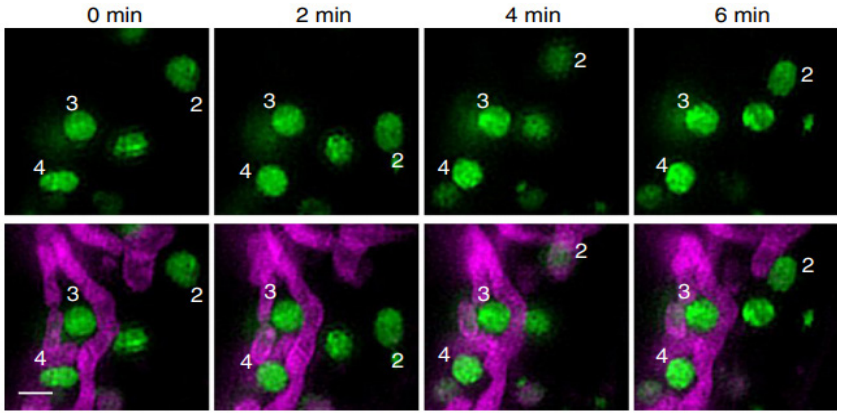
TraKine™ Pro LysRed™ (Abbkine)





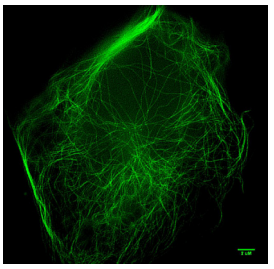
LysoTracker™ (ThermoFisher)

SIM images of lysosomes in live U2OS cells are stained with TraKine™ Pro LysRed™ and LysoTracker™ Red. LysoTracker™ Red showes an uneven background in the perinuclear region, making the SIM images too blurry to recognize the shapes of lysosomes.

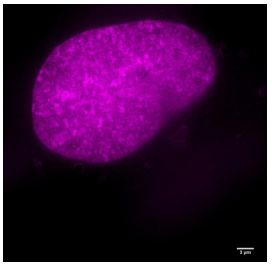


SIM images reveal dynamic physical interactions between lysosomes and mitochondria in live U2OS cells stained with TraKine™ Pro LysGreen™ (Abbkine) and TraKine™ Pro MitoRed™ (Abbkine).

Experimental Results



SIM imaging result of U2OS cells using KTC4100, which shows that the kit can specifically label microtubule structures in living cells and perform ultra-high resolution imaging.

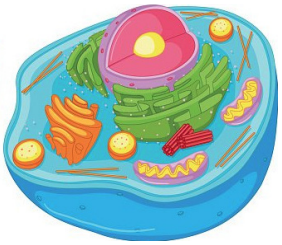


SIM imaging result of U2OS cells using KTC4510, which can be seen that the kit can specifically label Nuclei structures in living cells and perform ultra-high resolution imaging.

Super Resolution Annotation:
STED: stimulated emission depletion; SIM: structured illumination microscopy; TIRF: total internal reflection fluorescence microscopy; STORM: stochastic optical reconstruction microscopy; PALM: photoactivated localization microscopy; Confocal: confocal scanning laser.

Features & Benefits

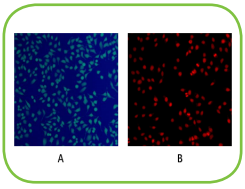
- Proprietary probe contains fluorescent dye and a unit which electively recognize organelles, with high specificity, low background, excellent photostability and good cell permeability.
- Optimized staining protocol for labeling subcellular structures in mammalian living and fixed cells.
- Fuorescence can last for several hours in cells, stable and persistent, especially ideal for monitoring dynamics.
- Super resolution, especially suitable for Confocal and long-term super-resolution imaging (such as SIM, STED, TIRF, STORM and PALM).
- Safe, very low or no cytotoxicity to cells.



TraKine™ Pro proprietary excellent fluorescent dyes span the full UV-visible and near IR spectrums. Based on TraKine™ Pro technology, Abbkine offers customized service for specific fluorescence groups and organelles.

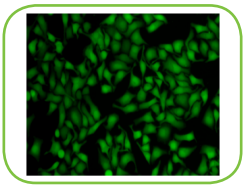
TraKine™ Cell Staining Kits

Abbkine TraKine™ cell staining kits are a set of conventional fluorescence imaging tools for staining of whole cells and organelles (including plasma membranes, mitochondrion, etc.), which are optimized for living and fixed suspended or attached cells.



Live and Dead Cell Double Staining Kit

Live and Dead Cell Double Staining Kit provides a convenient assay to evaluate the viability of cells, based on the simultaneous determination of live and dead cells with two probes: LiveDye, a cell-permeable green fluorescent dye (Ex/Em: 488/530 nm), to stain live cells; NucleiDye, a cell non-permeable red fluorescent dye (Ex/Em: 535/617nm), to stain dead cells.

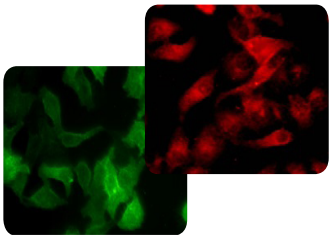


Live Cell Tracking Kit (Green Fluorescence)

Live Cell Tracking Kit (Green Fluorescence) provides a versatile and well-retained celltracing reagent (CellTracker Green) for monitoring cell movement, location, proliferation, migration, chemotaxis, and invasion. The CellTracker Green probes are well retained in living cells through several generations and can display fluorescence for at least a week. The probes are transferred to daughter cells, but are not transferred to adjacent cells in a population.

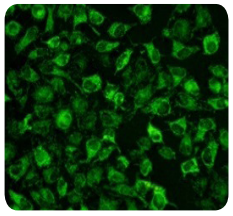
Product Name	Target	Cat. No.	Application	Size
Live and Dead Cell Double Staining Kit	whole cell	KTA1001	Mammalian cells	100/500/2000T
Live Cell Tracking Kit (Green Fluorescence)	whole cell	KTA1002	Mammalian cells	100/500/2000T

TraKine™ Cell Plasma Membrane Staining Kit



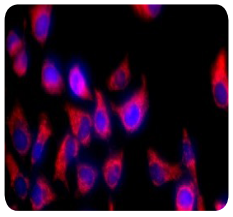
- Suitable for a wide variety of mammalian cell types, both living and fixed suspended or attached cells.
- Optimized for various fluorescence platforms such as microplate assays, flow cytometry and fluorescence microscope.
- Proprietary dyes resulting in accelerated diffusion within membranes, staining is also maintained after fixation with formaldehyde, enabling further multi-color staining.

TraKine™ Mitochondrion Staining Kit (Green Fluorescence)



- Suitable for a wide variety of mammalian cell types, and can be used for both living and fixed suspended or attached cells.
- Optimized for various fluorescence platforms such as microplate assays, flow cytometry and fluorescence microscope.
- Proprietary MitoGreen™ (Ex/Em: 490/523 nm), much less depending on mitochondrial membrane potential. Both live cells and formaldehyde-fixed cells can be stained, but after permeabilization, the fluorescence signal will be weakened or lost.

TraKine™ Mitochondrion Staining Kit (Orange Fluorescence)



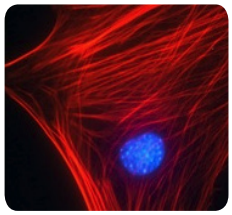
- Suitable for a wide variety of mammalian cell types, and can be used for both living and fixed suspended or attached cells.
- Optimized for various fluorescence platforms such as microplate assays, flow cytometry and fluorescence microscope.
- Proprietary MitoOrange™ (Ex/Em: 579/599 nm), easily permeates intact living cells and can be retained after formaldehyde fixation and permeabilization, suitable for double labeling experiments.

TraKine™ Mitochondrion and Nuclear Staining Kit

- Proprietary MitoOrange™ (Ex/Em: 579/599 nm);
  Hoechst 33342 (Ex/Em: 350/461 nm, when bound to DNA)
- Both dyes are retained after formaldehyde fixation and permeabilization.

Product Name	Cat. No.	Ex/Em (nm)	Application	Size
TraKine™ Cell Plasma Membrane Staining Kit (Green Fluorescence)	KTC4001	484/501	Live and fixed cells	100/500/2000T
TraKine™ Cell Plasma Membrane Staining Kit (Orange Fluorescence)	KTC4002	549/569	Live and fixed cells	100/500/2000T
TraKine™ Mitochondrion Staining Kit (Green Fluorescence)	KTC4003	490/523	Live and fixed cells	100/500/2000T
TraKine™ Mitochondrion Staining Kit (Orange Fluorescence)	KTC4004	579/599	Live and fixed cells	100/500/2000T
TraKine™ Mitochondrion and Nuclear Staining Kit	KTC4005	579/599, 350/461	Live and fixed cells	100/500/2000T
TraKine™ F-actin Staining Kit (Green Fluorescence)	KTC4008	490/515	Fixed cells, tissue sections	50/300/1000T
TraKine™ F-actin Staining Kit (Orange Fluorescence)	KTC4009	593/614	Fixed cells, tissue sections	50/300/1000T

TraKine™ F-actin Staining Kit



- Optimized staining protocol for labeling, identifying and quantitating F-actin in formaldehyde-fixed and permeabilized tissue sections, cell cultures or cell-free experiments.
- Proprietary Phalloidin, high-affinity probe for F-actins and much higher photostability than other fluorescein-phalloidin conjugates.

Product Name	Description	Cat. No.	Size
AbFluor™ 488-Phalloidin	Phalloidin (Green Fluorescence)	BMD00082	500T
AbFluor™ 555-Phalloidin	Phalloidin (Orange Fluorescence)	BMD00083	500T
AbFluor™ 594-Phalloidin	Phalloidin (Red Fluorescence)	BMD00084	500T

ExKine™ Protein & Organelle Extraction kits (For Mammalian Cells and Tissues)

Product Name	Cat. No.	Description	Size
ExKine™ Nuclear and Cytoplasmic Protein Extraction Kit	KTP3001	Nuclear & Cytoplasmic Protein Extraction	50/200T
ExKine™ Nuclear Protein Extraction Kit	KTP3002	Nuclear Protein Extraction	50/200T
ExKine™ Cytoplasmic Protein Extraction Kit	KTP3003	Cytoplasmic Protein Extraction	50/200T
ExKine™ Total Membrane Protein Extraction Kit	KTP3004	Total Membrane Protein Extraction	50/200T
ExKine™ Membrane and Cytoplasmic Protein Extraction Kit	KTP3005	Membrane and Cytoplasmic Protein Extraction	50/200T
ExKine™ Total Protein Extraction Kit	KTP3006	Total Protein Extraction	50/200T
ExKine™ Nuclei Extraction Kit	KTP4001	Nuclei Extraction (Crude)	50/200T
ExKine™ Nuclei Extraction Kit (High Purity)	KTP4002	Nuclei Extraction (High Purity)	20/100T
ExKine™ Mitochondrion Extraction Kit (Cultured Cells)	KTP4003	Mitochondrion Extraction (Cells)	50/200T
ExKine™ Mitochondrion Extraction Kit (Tissue)	KTP4004	Mitochondrion Extraction (Tissues)	50/200T

Related Antibodies

Product Name	Cat. No.	Application	Size
Anti-α-Tubulin Monoclonal Antibody (3G5)	A01080	IF, IHC-p, IP, WB	50μl/200μl/200μl*5
Anti-Histone H3 Mouse Monoclonal Antibody (2D10)	A01070	IF, IHC-p, IP, WB	50μl/200μl/200μl*5
Na+/K+-ATPase α1 Polyclonal Antibody	ABP51894	ELISA, IF, IHC-p, WB	30μl/100μl/200μl
Anti-β-Actin Mouse Monoclonal Antibody (1C7)	A01010	IF, IHC-p, WB	50μl/200μl/200μl*5
Anti-GAPDH Mouse Monoclonal Antibody (2B5)	A01020	IF, IHC-p, WB	50μl/200μl/200μl*5
Anti-PCNA Mouse Monoclonal Antibody (1D7)	A01040	IF, IHC-p, WB	50μl/200μl/200μl*5
Anti-COX IV Mouse Monoclonal Antibody (14Y2)	A01060	IF, IHC-p, WB	50μl/200μl/200μl*5
Anti-Lamin B1 Monoclonal Antibody (15T1)	A01090	IF, IHC-p, IP, WB	50μl/200μl/200μl*5
VDAC1 Polyclonal Antibody	ABP53121	ELISA, WB	30μl/100μl/200μl
CYCS Monoclonal Antibody	ABM40191	IF, IHC-p, WB	30μl/100μl/200μl