

# Novel Tracing Reagents for Imaging Sub-Cellular Structures

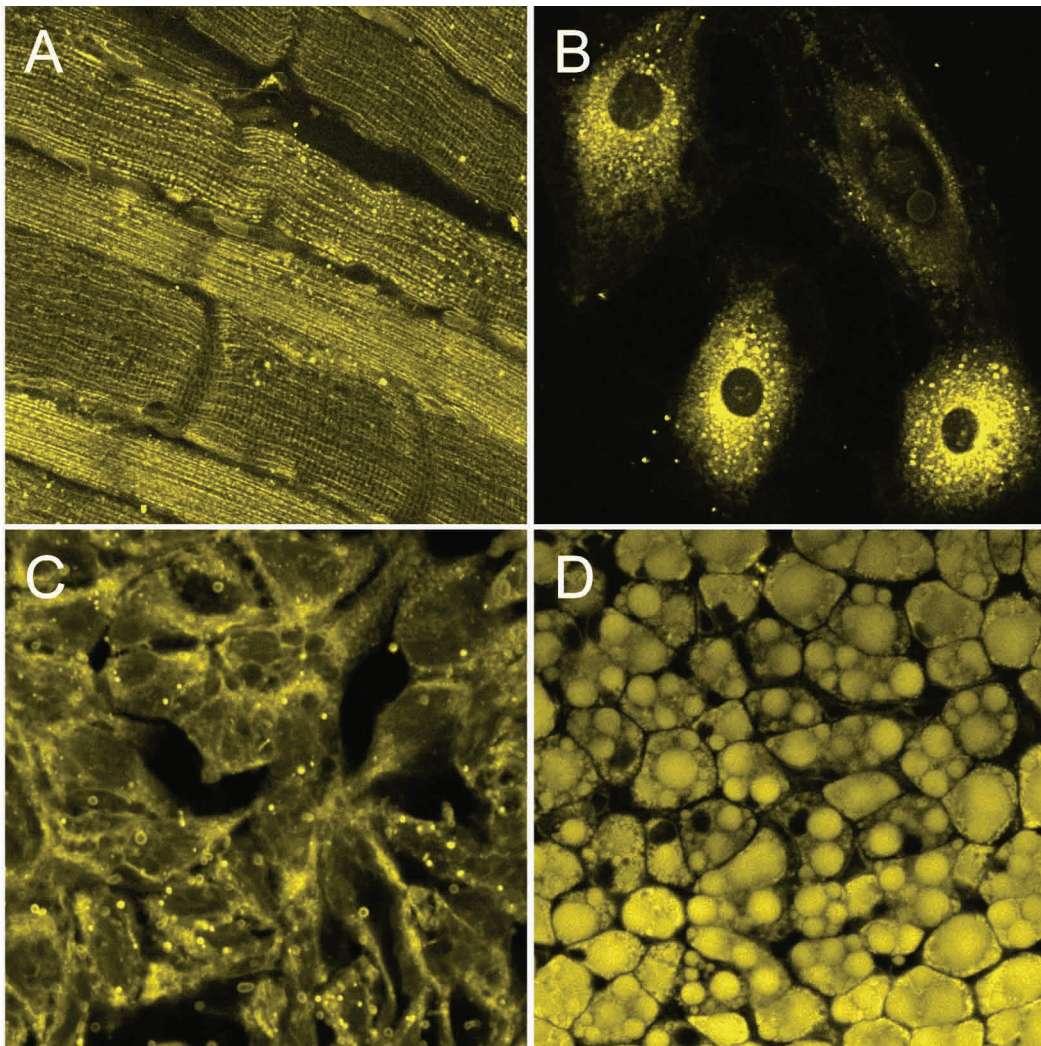
NEW



## Superb Fluorescent imaging!

Experience the easiest way to capture energy storage, signalling, cell metabolism and major structural components of all cellular membranes! Image **polar lipids** (TR-600-P1), **endoplasmic reticulum** (TR-601-ER1), **mitochondria** (TR-602-MR) and **lipid-rich compartments** (TR-603-P2) with confidence. A **luminescent dye** (TR-604-TAG), suitable for copper facilitated 'click' conjugation reactions, can be used in user-defined applications.

Biosensis' new fluorescence imaging reagents are compatible with other fluorescent dyes, can be used on live and fixed samples, and demonstrate excellent photo stability, low cytotoxicity, large Stokes Shift and rapid cellular uptake.



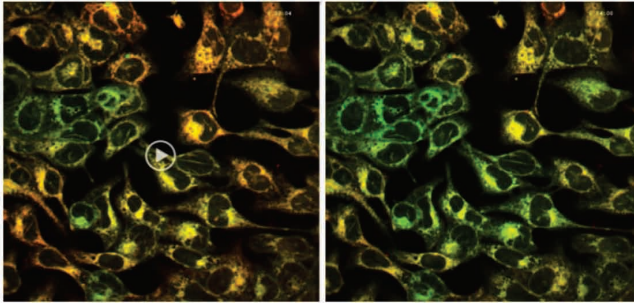
### Polar lipids

Catalog # TR-600-P1

- ◀ Staining of lipids with Biosensis P1™ Polar Lipid Tracing Reagent (TR-600-P1) in muscle tissue (A), cardiomyocytes (B), vesicular structures (C) and fetal adipose tissue (D).

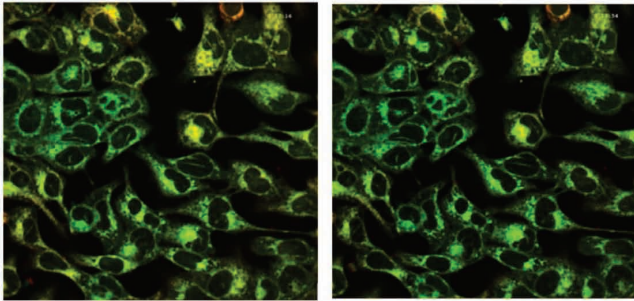
# Endoplasmic reticulum

## Catalog # TR-601-ER1



At 4 seconds

4 minutes



At 7 minutes, 16 seconds

9 minutes, 54 seconds

▲  
Co-staining of prostate epithelium with Biosensis ER-O™ Endoplasmic Reticulum Tracing Reagent (TR-601-ER1, pseudocolor: green) and ER-Tracker (red). Time lapse over 10 min demonstrates superior photostability of TR-601-ER1 over other commercially available dyes.

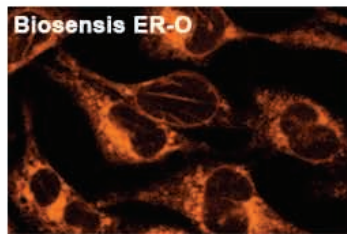
Image dynamic changes in the endoplasmic reticulum in 'no-wash assays'. Biosensis ER-O™ Endoplasmic Reticulum Tracing Reagent (TR-601-ER1) allows for reversible staining - Ideal for time-dependant experiments or drug treatment assays where multiple wash steps can interrupt workflow.

## Comparison of TR-601-ER1 and ER-Tracker™

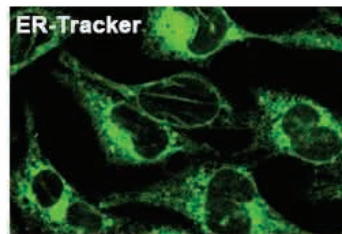
Property	TR-601-ER1	ER-Tracker™
Localisation	Endoplasmic reticulum	Endoplasmic reticulum
Live Cell Staining	✓	✓
Fixed Cell Staining	✓	x
Photostable	✓ No change in emission intensity > 400 scans	✓ < 20% original emission intensity after 400 scans
Multicolor Imaging	✓	✓
Reversible Staining	✓ (Stain can be washed away after staining)	x
Storage at Room Temperature	✓	x

ER-Tracker™ is a registered trade mark of Invitrogen.

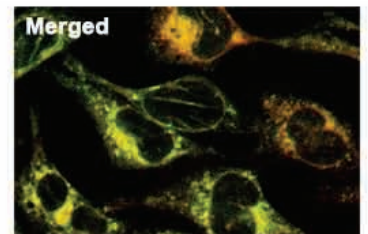
TR-601-ER1



Competitor product

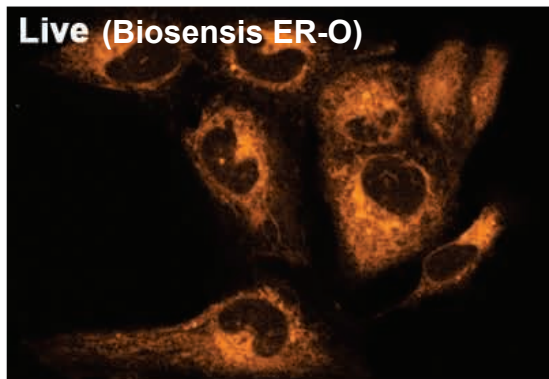


Identical staining

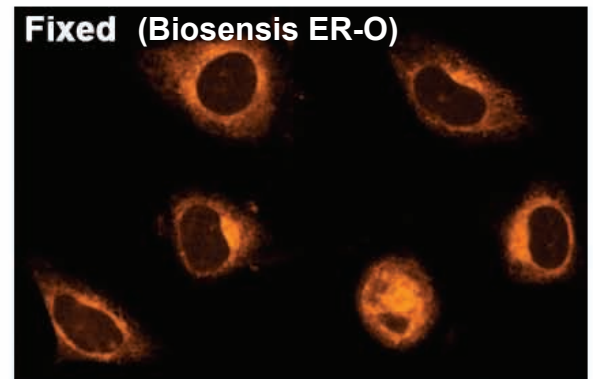


► Comparison of Biosensis ER-O™ Endoplasmic Reticulum Tracing Reagent (TR-601-ER1) with a competitive product (ER-Tracker™, upper panel). Merged image demonstrates identical staining patterns with TR-601-ER1 but unlike ER-Tracker™, ER-O™ can be used to stain the endoplasmic reticulum in live and fixed tissues without any loss of signal (lower panel).

Live (Biosensis ER-O)



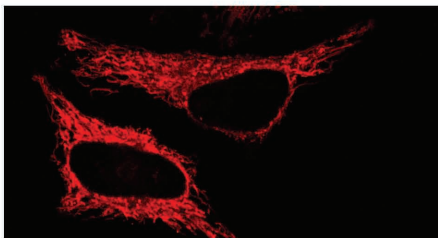
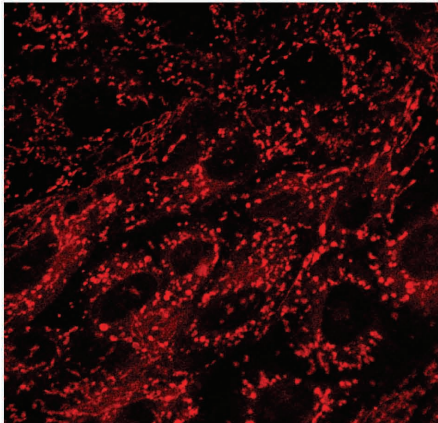
Fixed (Biosensis ER-O)





# Mitochondria

Catalog # TR-602-MR



Staining of mitochondria in cardiomyocytes (top) and HeLa cells (bottom) with Biosensis Mito-R™ Mitochondria Tracing Reagent (TR-602-MR).

## Comparison of TR-602-MR and MitoTracker™ Red CMXRos

Property	TR-602-MR	MitoTracker™ Red CMXRos
Localisation	Mitochondria	Mitochondria
Live Cell Staining	√	√
Fixed Cell Staining	x	x
Live Tissue Staining	√	√
Fixed/Frozen Tissue Staining	√	x
Multicolor Imaging	√	√

MitoTracker™ is a registered trade mark of Invitrogen.

# Lipid-rich compartments

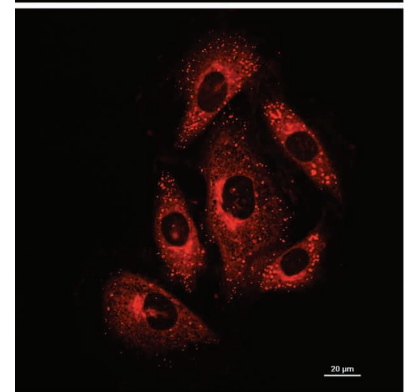
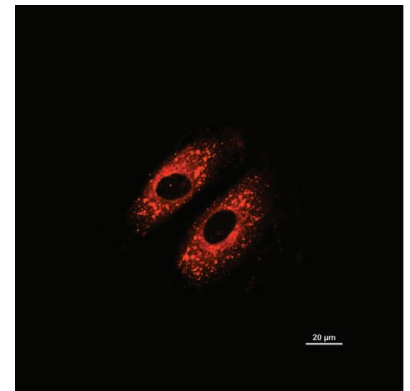
Catalog # TR-603-P2

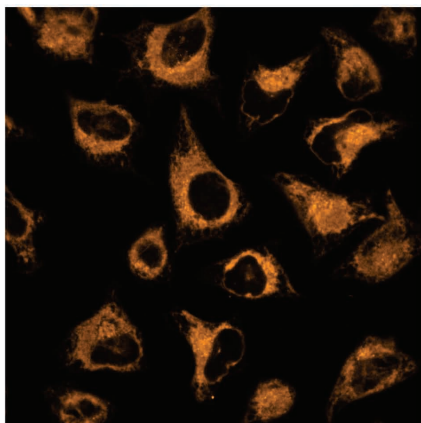
## Comparison of TR-600-P1 and TR-603-P2 with other Lipid Dyes

Property	TR-600-P1/TR-603-P2	BODIPY™ 493/503	Filipin	Oil Red O
Localisation	High polar lipid content	Lipid droplets	Free cholesterol	Lipid droplets
Live Cell Staining	√	√	x (highly cytotoxic)	x
Fixed Cell Staining	√	√	√	√
Live Tissue Staining	√	√	x	x
Fixed/Frozen Tissue Staining	√	√	√	√
Multicolor Imaging	√	Dual color only (compatible with red fluorophores)	√	Dual color only (compatible with green fluorophores)
Storage at Room Temperature	√	x	x	√

BODIPY™ is a registered trade mark of Invitrogen.

Staining in cultured cells with Biosensis P2™ Polar Lipid and Endoplasmic Reticulum Tracing Reagent (TR-603-P2). Top: cardiomyocytes; Bottom: H9c2 cells.





# Luminescent dye

Catalog # TR-604-TAG

◀ Biosensis Tag-405 is a cell-permeable luminescent alkyne useful for copper-facilitated “click” reactions.



## Comparative Product Table

Catalog Number	TR-600-P1	TR-601-ER1	TR-602-MR	TR-603-P2	TR-604-TAG
Product Name	Biosensis P1™ Polar Lipid Tracing Reagent	Biosensis ER-O™ Endoplasmic Reticulum Tracing Reagent	Biosensis Mito-R™ Mitochondria Tracing Reagent	Biosensis P2™ Polar Lipid and Endoplasmic Reticulum Tracing Reagent	Biosensis Tag-405™ Luminescent Click-Chemistry Dye
Localisation	Polar lipids	Endoplasmic reticulum	Mitochondria	Polar lipid droplets & endoplasmic reticulum	User defined luminescent tag
Colour	Yellow	Orange	Red	Red	Orange
Resistance to photo bleaching	High	High	High	High	High
Cytotoxicity	Low	Low	Low	Low	Low
Excitation / Emission	UV or 450 nm / 550 nm	UV or 405 nm / 570 nm	UV or 405 nm / 600 nm	UV or 405 nm / 600 nm	UV or 405 nm / 570 nm
Live cells & tissues	√	√	√	√	√
For fixed cells and tissues	√	√	Fixed tissue only	√	√
Solubility: DMSO	√	√	√	√	√
Fast cellular uptake	√	√	√	√	√
Solubility: DMSO	√	√	√	√	√
Fluorescence & Multiphoton Microscopy	√	√	√	√	√
Raman & Infrared Spectroscopy	√	√	x	x	√
Storage & Transport	Room temperature	Room temperature	Room temperature	Room temperature	Room temperature