# MITO-ID® Red detection kit (GFP-CERTIFIED®)

## Photostable, non-toxic and selective mitochondrial dye that stains regardless of membrane potential

MITO-ID® Red Detection Kit (GFP-CERTIFIED®) contains a proprietary membrane-permeable mitochondria-selective dye suitable for use with live-, detergent-permeabilized- and even aldehyde-fixed-cells. Unlike conventional dyes, such as DiOC6(3), JC-1, rhodamine 123 and tetramethylrhodamine ethyl ester, MITO-ID® Red dye highlights mitochondria regardless of their energetic state. The dye is compatible with most fluorescence detection systems, including conventional and confocal fluorescence microscopes, as well as, High Content Screening (HCS) platforms. The kit is useful for assessing mitochondrial morphology changes, estimating mitochondrial mass and co-localizing GFP-tagged proteins to the mitochondrial compartment. This kit is specifically designed for use with GFP expressing cell lines, as well as cells expressing blue, cyan or yellow fluorescent proteins (BFPs, CFPs, YFPs). Additionally, the kit is suitable for use with live or post-fixed cells in conjunction with fluorescent probes, such as labeled antibodies, or other fluorescent conjugates displaying similar spectral properties such as fluorescein and coumarin. A nuclear counterstain (Hoechst 33342) is provided to highlight this organelle as well. Wavelength maxima: MITO-ID® Red λex 558 nm, λem 690 nm; Hoechst 33342 λex 350 nm, λem 461 nm.

- Mitochondria-selective dye stains live, detergent permeabilized and aldehyde fixed cells
- Long wavelength red emission is easily multiplexed with common fluorescent dyes
- Highly resistant to photobleaching and concentration quenching, for strong, consistent fluorescent signal
- Highlights mitochondria regardless of the organelle's membrane potential status
- Stringently manufactured, to control and eliminate non-specific assay artifacts

**Citations:** 38 View Online »

## Ordering Information Order Online »

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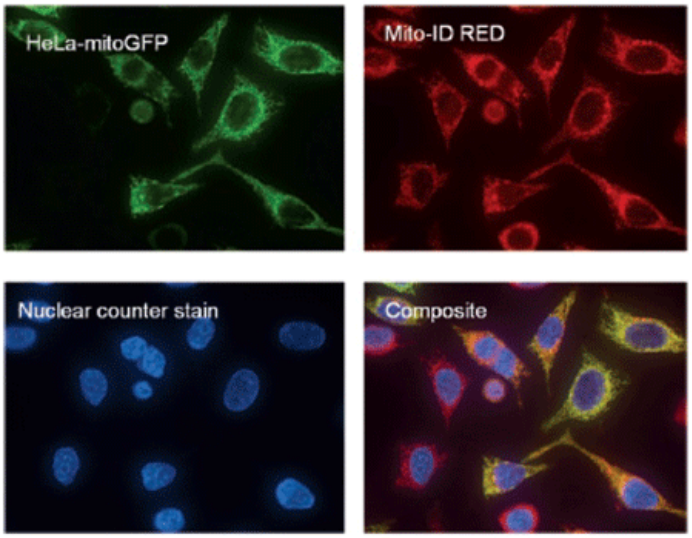
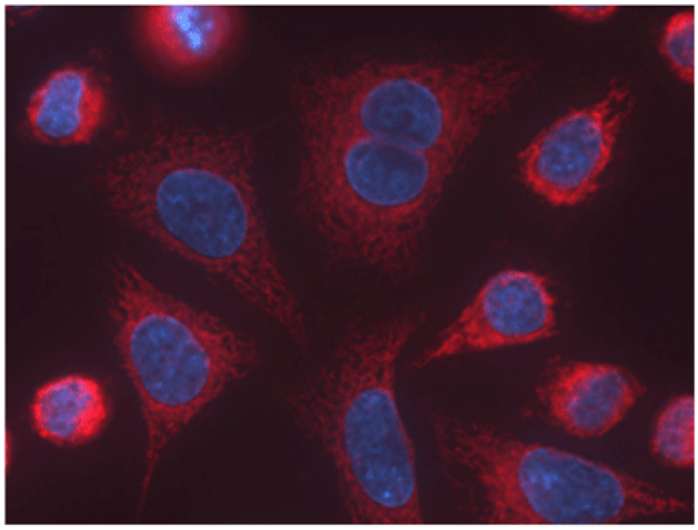
|---|---|
| **ENZ-51007-0100** | 100 tests |
| **ENZ-51007-500** | 500 tests |

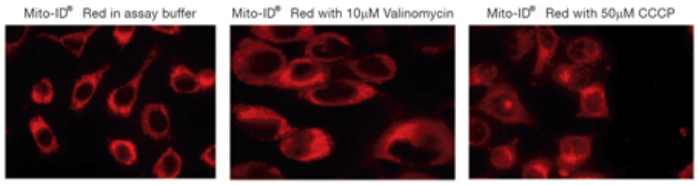
## Manuals, SDS & CofA View Online »




HeLa-TurboGreen-mitochondria cells (HeLa-mitoGFP, MarinPharm GmbH, Luckenwalde, Germany) stained with MITO-ID® Red and Hoechst 33342 (blue) dyes. MITO-ID® Red co-localizes with the EGFP-cytochrome C oxidase signal (yellow signal), demonstrating selectivity for mitochondria. Note that mitochondria in cells no longer expressing the GFP-tagged protein appear red in the composite image.



Composite fluorescence microscopy images of HeLa cells (40X objective lens). Cells were stained with MITO-ID® Red dye for 15 minutes. Nuclei were counter-stained with Hoechst 33342 dye.




The MITO-ID® Red dye selectively stains mitochondria of living cells and is relatively insensitive to mitochondrial membrane potential uncouplers of phosphorylation, such as CCCP (carbonyl cyanide 3-chlorophenylhydrazone) as well as ion-channel perturbing drugs, such as valinomycin.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## Handling & Storage

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|---|---|
| **Use/Stability** | With proper storage, the kit components are stable up to the date noted on the product label. Store kit at -20°C in a non-frost free freezer, or –80°C for longer term storage. |
| **Handling** | Protect from light. Avoid freeze/thaw cycles. |
| **Long Term Storage** | -80°C |
| **Shipping** | Dry Ice |

## Regulatory Status

RUO - Research Use Only

## Product Details

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|---|---|
| **Application** | Fluorescence microscopy, Fluorescent detection |
| **Application Notes** | For use with GFP-expressing cell lines, as well as cells expressing blue, cyan or yellow fluorescent proteins. |
| **Contents** | MITO-ID® Red Detection Reagent<br>Hoechst 33342 Nuclear Stain<br>10X Assay Buffer |
| **Quality Control** | 1. Absorption peak of MITO-ID® Red Detection Reagent: $\lambda_{max}$ = 550 ± 7 nm<br>2. % purity of MITO-ID® Red Detection Reagent by HPLC: ≥93%<br>3. A sample from each lot of GFP-CERTIFIED® MITO-ID® Red Mitochondrial Detection Kit is used to stain HeLa cells, expressing GFP-cytochrome C oxidase, using the procedures described in the user manual. The selectivity of the MITO-ID® Red dye is evident as shown by the co-localization with a GFP-cytochrome C oxidase fusion expressed in the HeLa cells. |
| **Quantity** | For ENZ-51007-500, 500 assays<br>For ENZ-51007-0100, 100 assays |
| **Technical Info / Product Notes** | ***Application Note***:<br>*Towards Understanding the Molecular Basis of Parkinson's Disease: Cell-based Model of Mitophagy and Aggresome Accumulation* |

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