

# PRODUCT INFORMATION



## MitoROS™ 580

Item No. 25169

**Ex./Em. Max:** 510/580 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Description

MitoROS™ 580 is a fluorescent probe for superoxide production in mitochondria of live cells. It is cell-permeable and targets mitochondria where it is oxidized by superoxide over other reactive oxygen species (ROS) or reactive nitrogen species (RNS). Upon oxidation by superoxide, MitoROS™ 580 fluoresces, and this fluorescence can be measured using fluorescence microscopy or flow cytometry. MitoROS™ 580 displays excitation/emission maxima of 510/580 nm, respectively. MitoROS™ 580 has been used to determine effects of curcumin (Item No. 81025) treatment on superoxide production in Jurkat cells.<sup>1</sup>

### Assay Protocol

Treat cells as desired per your experimental protocol prior to completion of the following imaging protocol.

1. Prepare 1000X MitoROS™ 580 DMSO stock solution: Dissolve the contents of one vial of MitoROS™ 580 in 13 µl DMSO.
2. Prepare 2X MitoROS™ 580 working solution\*: Dilute DMSO stock solution into Hank's balanced salt solution with 20 mM HEPES (HHBS).
3. Incubate cells with an equal volume of 2X MitoROS™ 580 working solution, such as 100 µl/well in a 96-well plate, for 10-30 minutes at 37°C protected from light.
4. Wash cells three times with pre-warmed (37°C) HHBS, then fill wells with HHBS.
5. Observe cells using fluorescence technique of choice.

\*Note 1: The 2X MitoROS™ 580 working solution is not stable and must be used promptly.

Note 2: The final in-cell concentration of MitoROS™ 580 should not exceed 1X as concentrations exceeding 1X can induce altered mitochondrial morphology, cytotoxicity, and redistribution of fluorescence to nuclei and the cytosol.

### Reference

1. Luo, Z., Zhao, Q., Liu, J., et al. 222 - Flow cytometric analysis of intracellular ROS and RNS production and curcumin inhibition. *Free Rad. Biol. Med.* **100(Suppl)**, S103-S104 (2016).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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