

CytoCHECK SPACHip® OHrad ROS Single-Detection Kit

CytoCHECK SPACHip® OHrad ROS Single-Detection Kit allows real-time monitoring of intracellular **reactive oxygen species (ROS)** through the specific detection of **hydroxyl radicals (•OH)** via changes in green fluorescence intensity within living cells.

This product enables to **measure •OH radicals generated either as primary ROS or as secondary species downstream of other ROS**, facilitating a more comprehensive study of live cell physiology, proliferation, differentiation, cell death, and ferroptosis.

This kit enables real-time monitoring of **intracellular ROS levels in living cells**, allowing the tracking of important biological processes and anti-cancer therapy assay improvement.

HIGHLIGHTS

- Intracellular measurements of **reactive oxygen species (ROS)** levels (specifically **hydroxyl radicals**) by changes in fluorescence intensity.
- Designed to be **active** only when in contact with **intracellular esterases**.
- This product is **pH-insensitive**.
- Non-invasive for live cells allowing **long-term monitoring** of intracellular ROS changes.
- Composed of **fluorescently labeled silicon microparticles** that can be internalized in the cytosol of cultured cells.
- **Ready-to-use workflow** that provides an extensive study of cell physiology and metabolism.

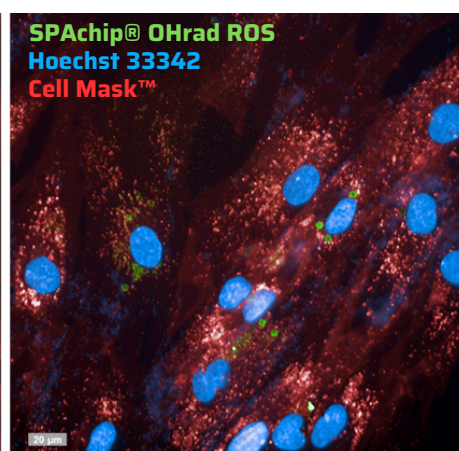
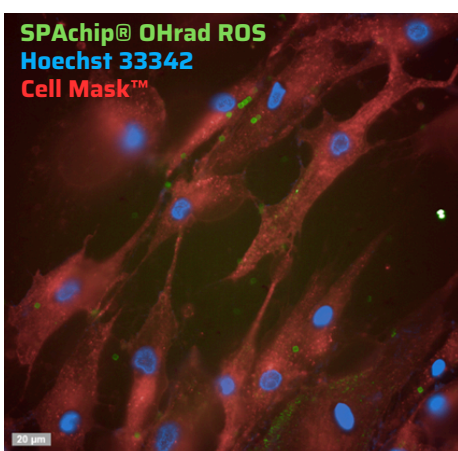


Figure 1: CytoCHECK SPACHip® OHrad ROS Single-Detection Kit in Fibroblast 1095SK cell line.

Images showing intracellular ROS SPACHip® in green, acquired with 40x magnification objective. In blue, nuclear staining by Hoechst 33342. In red, cytoplasmic staining by Cell Mask™ Plasma Membrane. Scale bar: 20 µm.

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PRODUCT FEATURES

- CytoCHECK SPACHIP® kits are novel cell-based assays for **living cells** that bring together the fields of nanotechnology and cell biology.
- CytoCHECK SPACHIP® detection kits are composed of **fluorescently labeled silicon microparticles - SPACHIPS®**- that can be internalized in cultured cells to monitor changes in specific intracellular analyte concentrations for **long periods of time**.
- This product enables a **more comprehensive study** of cell survival, proliferation, differentiation, cell death, apoptosis, and ferroptosis.
- **CytoCHECK SPACHIP® OHrad ROS Single-Detection Kit** enables continuous and accurate monitoring of **intracellular ROS levels** in living cells, by the specific detection of **hydroxyl radicals (•OH)**.
- CytoCHECK SPACHIP® OHrad ROS Single-Detection Kit is **pH-insensitive**: experimental readouts obtained from this product are not affected by pH changes of the media, avoiding measurement artifacts due to pH variations.
- **CytoCHECK SPACHIP® OHrad ROS Kit** is only active when in contact with intracellular esterases, obtaining a fluorescent signal with internalized SPACHIPS.



Each CytoCHECK SPACHIP® OHrad ROS Single-Detection Kit contains:

-2.5x10 ⁶ ASSAY SPACHIPS	ASSAY SPACHIP® tube (embedded in a solid fluorescence-protective soluble film)
5 mL	ASSAY buffer tube (Sterile, cell culture suitable)
-2.5x10 ⁶ CONTROL SPACHIPS/mL	CONTROL SPACHIP® tube (non-fluorescent, ready-to-use)

CytoCHECK SPACHIP® OHrad ROS Single-Detection Kit	
Product code	S-003-ROSG
Amount	~2.5 millions of SPACHIPS
Applications	Cell viability, proliferation, cell image acquisition
Assay time	30 minutes
Assay type	Living single-cell based
Solubility	Soluble in assay buffer (aqueous)
Analyte	ROS: hydroxyl radicals (•OH)
Detection method	Green fluorescence
Fluorescence	λ _{ex} : 488 nm; λ _{em} : 520 nm
Compatible Platforms	Fluorescence microscopy, HCS/HCA platforms (20x magnification and over) and flow cytometry
Sample type	Adherent cells, suspension cells

*Ensure to follow the full User Protocol

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