Product Sheet

CytoCHECK SPAchip® pH Green Single-Detection Kit

CytoCHECK SPAchip® pH Green Single-Detection Kit allows measurement of **intracellular and extracellular pH levels** by changes in green fluorescence intensity, which allows a more comprehensive study of the living single-cell physiology and provides additional insights using imaging analyzers.

SPAchip® technology allows long-term intracellular monitoring without cytotoxic effects, ensuring minimal interference with cellular processes. Designed for living single-cell analysis, this kit provides researchers with a powerful, ready-to-use tool to study key biological processes, including metabolism, cell viability, and response to environmental changes, while maximizing experimental reproducibility and efficiency.

Highlights

- Non-toxic for living single cells. Measures intracellular and extracellular pH levels by changes in fluorescence intensity.
- Live and quantitative, long-term monitoring of intracellular and extracellular pH changes.
- Composed of fluorescently labeled silicon microparticles that can be internalized in the cytosol of cultured cells.
- Provides a more comprehensive study of single cell physiology and metabolism.
- Compatible with most imaging platforms.
- Cell type flexibility.
- Ready-to-use, robust workflow.

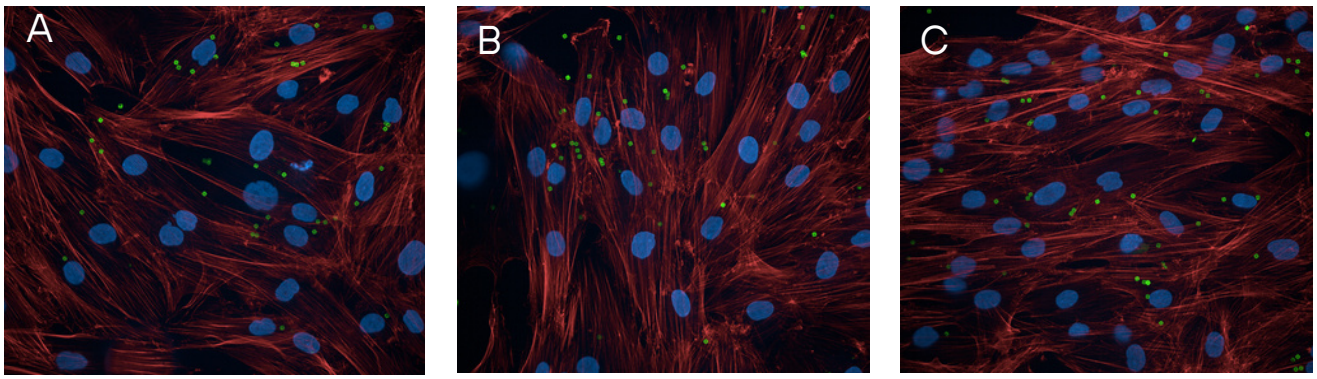

Figure 1: SH-SY5Y cell line (neuroblastoma cells) fluorescence images containing internalized SPAchip® pH Green for intracellular and extracellular pH detection. Nuclei stained in blue and actin cytoskeleton in red are visualized alongside SPAchip® pH-sensitive green fluorescence. Images A, B, and C represent different fields of view, showcasing the distribution and internalization of SPAchips® within living cells. This technology enables live and quantitative monitoring of intracellular pH, making it an essential tool for studies in cell metabolism, drug development, and toxicity assessment.

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Product features

- SPAchip® assay kits are novel cell-based assays for living single-cell that bring together the fields of **nanotechnology and cell biology**.
- CytoCHECK SPAchip® 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.
- **CytoCHECK SPAchip® pH greenSingle-Detection Kit** allows measurement of **intracellular and extracelullar pH levels** by changes in fluorescence intensity.
- **High Sensitivity and Stability:** unlike traditional pH-sensitive dyes, CytoCHECK SPAchip® pH green Single-Detection Kit ensures stable, reproducible pH measurements over extended periods of time, making it ideal for applications in phenotypic screening, drug discovery, and toxicity assessment.
- **Optimized for Imaging and Flow Cytometry:** compatible with fluorescence microscopy, high-content screening (HCS), and flow cytometry, enhacing imaging-based analysis for intracellular and extracellular pH studies.

Each CytoCHECK SPAchip pH Green 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)
~2.5x10^5 CONTROL SPAchips/100 µL	**CONTROL SPAchip® tube** (non-fluorescent, ready-to-use)

CytoCHECK SPAchip® pH Green Single-Detection Kit	
Product code	**S-001-PHG**
Amount	~2.5 millions of SPAchips
Applications	Cell viability, proliferation, cell image acquisition
Assay time	30 minutes
Assay type	Living single-cell based
Analyte	**pH**
Detection method	Green fluorescence*
Fluorescence	λex: 488 nm; λem: 520 nm
Measuring range	pH 4.5 – 7.5
Compatible Platforms	Fluorescence microscopy, HCS/HCA platforms (recommended 20x magnification and over) and flow cytometry
Sample type	Adherent cells, suspension cells
Solubility	Soluble in assay buffer (aqueous)

*Ensure to follow the full User Protocol

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