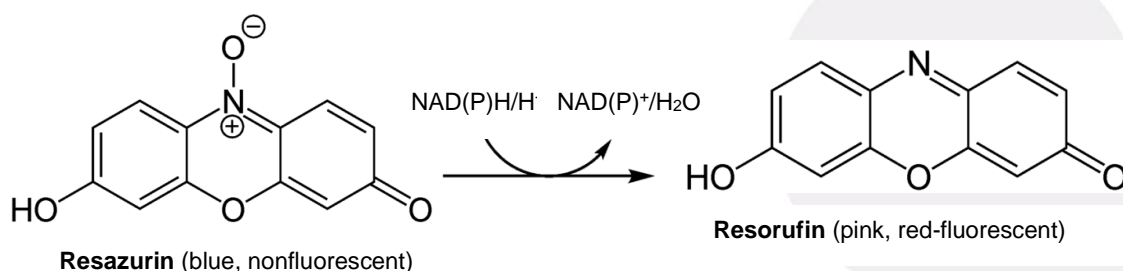


Xpert Blue Cell Viability Assay

#GTC20.0025 (25 ml) | GTC20s (trial size)
(FOR RESEARCH ONLY)



Product: Monitoring alterations in cell viability is an essential tool for the evaluation of cell health and proliferation. The Xpert Blue Cell Viability Assay offers a simple, fast and sensitive method for the detection of cellular metabolic activity. This assay is based on the irreversible reduction of the blue, nonfluorescent and nontoxic dye Resazurin into pink and highly-fluorescent Resorufin by diaphorase-type enzymes or other reductases present in mitochondria and cytosol of metabolically active cells.



The fluorescence emission wavelength ($\lambda_{\text{max}}=590\text{nm}$) is proportional to the cellular metabolic activity over a wide concentration range, allowing for quantitative measurement of cell viability, and is thus a reliable indicator of cell health or death. The conversion of Resazurin into Resorufin also results in an easily distinguishable color change that may be measured by absorbance, albeit with some loss of sensitivity. Hence, the assay may be carried out with either a standard spectrofluorometer or a spectrophotometric microtiter well plate reader.

As Resazurin is nontoxic and the assay does not require cell lysis, after measurement, the solution can be removed and replaced with other media and cells can be cultured further for follow-up assays. Moreover, the Xpert Blue Cell Viability Assay may be carried out simultaneously with other assays, such as the determination of caspase activity, enabling obtaining more information about mechanisms that lead to cytotoxicity. Resazurin can be used for measuring cell viability and proliferation with a wide range of organisms including animal cell lines, bacteria, fungi and plants.

Applications: Detection of cellular activity.

Quantity: #GTC20.0025 contains 25 ml of Resazurin solution, sufficient for 2,500 assays (96-well format)
#GTC20s is a trial sample (2ml) sufficient for 200 assays (96-well format)

Storage: When stored at +4°C, the Resazurin solution is stable for up to 1 year. For long time storage, the solution should be stored at -20°C. This product is stable for at least 10 freeze/thaw cycles.

Prior to use:

Thaw the Resazurin solution and warm it to 37°C in order to ensure all components are completely dissolved.

Protocol

1. Add 1/10th volume of the Resazurin solution (10% of the initial cell culture medium volume) directly to the cells.
 - when using cuvettes: 100 µl to 1 ml of initial volume
 - when using 96-well plates: 10 µl to 100 µl of initial volume
 - when using 384-well plates: 5 µl to 50 µl of initial volume
2. Return the cells in the incubator and incubate for 1-4 hours at 37°C, using the appropriate conditions, protected from direct light. Sensitivity increases with incubation time, thus for samples with few cells longer incubation time should be considered (up to 24 hours).
3. Read fluorescence or alternatively measure absorbance using the following conditions
 - Fluorescence: set up your microtiter well plate reader or fluorescence spectrophotometer using these filter settings:
Excitation λ = 560nm (range 540-570nm)
Emission λ = 590nm (range 580-610nm)
 - Absorbance: set up UV-VIS spectrophotometer using the following settings:
read absorbance at 570nm, and if possible:
use 600nm reference (for normalizing results)
4. Plot fluorescence (or absorbance) values versus test conditions (e.g., culture medium compound concentration). Results are linear and quantitative with cell viability for both fluorescence and absorbance, albeit the latter being less sensitive.