Resazurin Viability Assay Kit

Ordering info

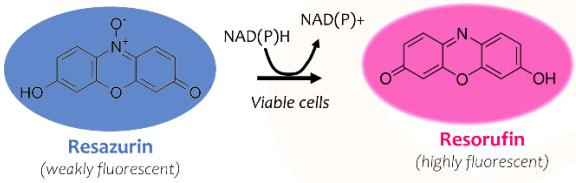
TBK0505, 200 assays (sample)

TBK0506, 2,500 assays

TBK0507, 10,000 assays

Description

The **Resazurin Viability Assay Kit** is a rapid and highly robust kit to measuring cellular viability. It is based on the reduction of weakly fluorescent blue resazurin to pink fluorescent resorufin by oxidoreductases present in viable cells. Resazurin is a cell-permeable dye, and the reaction is produced at mitochondria organelle.



The production of resorufin is proportional to the number of living cells.

Features

- **Ready to use solution,** to monitor cell viability.
- **Highly sensitive,** 50 - 50,000 cells in a linear range could be measured in fluorescent readout.
- **Suitable for high throughput format,** homogeneous assay without washing steps.
- **Versatile**, fluorescent or colorimetric readout.
- Not require radioactive materials, cell fixation, or cell permeabilization,

Quality Control

The kit is tested in a functional assay.

Kit Components

Components	TBK0506	TBK0507
Resazurin Solution 10x*	25 mL	4 x 25 mL

Order Info Kit Components: *Resazurin Solution 10x (TBR0255).*

Resazurin is equivalent to the active ingredient of ThermoFisher's alamarBlue®.

Storage

Store the kit at -20°C.

Before use, completely thaw the Resazurin solution at room temperature and mix thoroughly. Once thawed, it can be stored in the dark at 4°C for up to 12 months.

Material required (not supplied)

- 96-well plates.

Applications

- Determination of cell viability in presence of different agents.
- Bacterial contamination in milk[1].
- Sperm viability[2].
- Mitochondrial activity[3].

[1] *Am. J. Public Health Nations Health 1939, 29, 239–247.*
[2] *Fertil. Steril. 1991, 56, 743–746.*
[3] *Acta Pharmacol Sin, 2004, 25, 385-389.*

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PROTOCOL

1. Plate cells in 96-well plates with a final volume of 100 µL/well.
   - *For most experiments, 0.02-2x10^5 cells/well should be sufficient, but this can vary depending on the cell type and incubation time.*
   - *Include a standard curve, placing cell dilutions in the range of 40-20,000 cells per well for adherent cells, or 2,000-5,000 cells per well for suspension cells. Also include a well with culture medium without cells to use as a background control. As a 100% viability control, either PBS alone or 0.1% DMSO in PBS could be used.*
2. Incubate the cells until the density desired is reached.
3. Incubate the cells with the compound of interest for the desired period of time (1–72 hours).
4. Equilibrate Resazurin Solution 10x at room temperature. Mix gently.
5. Add **10 µL Resazurin Solution 10x** to the medium in each well, and mix thoroughly.
6. Incubate the plate 1-4 hours at 37°C.

   The same plate can be read at multiple time points to determine the optimal incubation time for your cell line and density.
7. Read the plates by absorbance or by fluorescence as follows. Note that fluorescence readout offers greater assay sensitivity and robustness.

Detection	Absorbance	Excitation	Emission
Colorimetric [a]	540-570 nm	-	-
Colorimetric [b]	585-620 nm		
Fluorometric [a]	-	570 nm	585 nm

[a] *Increasement of resorufin.* [b] *Decrease of resazurin.*

The percentage of viability is calculated as follows:

$$\%\,\boldsymbol{Viability} = \frac{Media\ Sample}{Media\ Blank} \times 100\%$$

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