Product Information

ATP Luminescent Cell Viability Assay Kit

Catalog Number: A6103

Product Size: 100T, 500T

Storage

Store at -20℃ and protect from light. When stored as directed, product is stable for at least 12 months.

Description

ATP is the most important energy molecule in cells, which can be used to measure the level of cell metabolism and has a good linear relationship with the number of living cells. Therefore, number of living cells can be reflected by ATP content. This kit can detect activity of cells or number of living cells quantitatively through the luminescent reaction of fluorescein catalyzed by ATP dependent luciferase and the content of ATP in cells by chemiluminescent signal, with high sensitivity and wide linear range. The kit is compatible with a small number of sample tests and a large number of high-throughput screening tests.

The luminescent cell viability detection reagent provided by this kit has wide linear range, high sensitivity and good stability. In 96 well plates, there is a good linear relationship between 100 and 100000 cells, but the upper limit of detection number of different cells will be different. In addition, the operation is simple, the detection reagent provided in the kit is ready to use, the readings are stable, the detection speed is fast, it only takes about 10 minutes to complete the detection, no need to wash cells, no need to replace or remove the culture medium. Compared with other common methods, such as Calcein-AM, CCK-8 and so on, luminescent method is more simple and fast.

Protocol

1. Cell culture: use 96 well plate suitable for chemiluminescence detection, inoculate 100 μL cells per well (determine the initial cell density according to the culture time, and the number of cells per well should not be more than 100000 at the time of detection), and set well of culture medium without cells as negative control. Cells were cultured at 37 ℃ and 5% CO_2. The gradient of cell concentration can also be set to get the best experimental results. The cells were treated with drugs at the right time as needed.

2. (Optional) Make ATP standard curve: dilute the self prepared ATP standard solution with PBS to an appropriate concentration gradient, and add 100 μL standard into each well of 96 well plate.

3. Cell viability detection.

1). Dissolve the reagent and balance it to room temperature (or 22 ℃ constant temperature water bath);

2). Take out the cell culture plate and place it at room temperature for 10 minutes (or 22 ℃ constant temperature water bath, the time should not be too long, try to control it within 30 minutes);

3). Add 100 μL detection reagent to each well of 96 well plate (because of the edge effect of well, it may lead to the instability of luminous signal, so it is not recommended to lay cells on the edge wells);

4). Shake for 2 minutes at room temperature to promote cell lysis;

5). Place the plate at room temperature for 10 minutes until the luminous signal tends to be stable.

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6). The chemiluminescence was detected by multi-functional enzyme labeling instrument. Set the corresponding parameters according to the requirements of the instrument, and the detection time of each well is generally 0.25-1 s, which needs to be adjusted appropriately according to the detection sensitivity of the instrument;

7). Calculate relative activity of cells according to the chemiluminescence reading, or calculate ATP content according to the ATP standard curve to get the relative activity of cells.

Note: the detection effect varies with different cell types. For some cells with high ATP content, the chemiluminescence reading may continue to increase when the cell number reaches more than 100000, but the linear relationship is lost.

Notes

1. The reagent contains luciferase, which will be affected by repeated freezing and thawing. It is suggested to store it at -20℃ in dark after repacking.

2. The reagents and cell samples should be balanced to room temperature before use to avoid the effect of enzyme catalysis.

3. When the drug content is high, it may interfere with the luciferase reaction and affect the chemiluminescence signal. It is suggested to set up a cell culture medium control well containing drugs to eliminate the interference of solvents.

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