Using Cell counting Kit-8 to measure cellular proliferation

CHINA, September 15, 2022 /EINPresswire.com/ -- Cell counting Kit-8 is also known as CCK-8 which is used to determine the viability of the cell on the basis of the calorimetric assay. Thus, it can also be used in assays related to cellular proliferation and cytotoxicity.

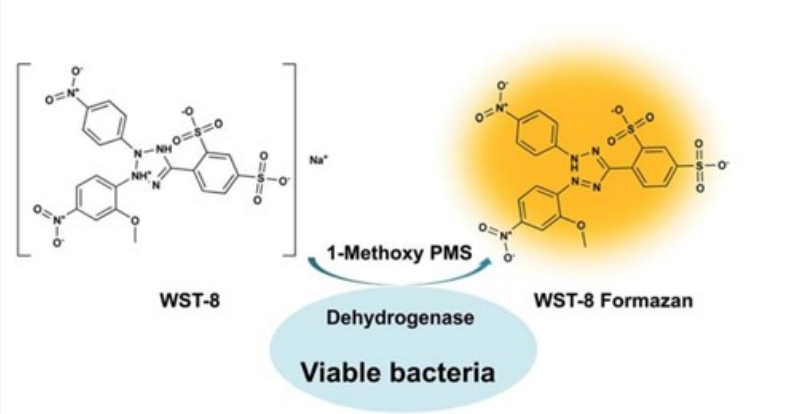

Figure 1:Diagrammatic representation of the detection of live bacteria via dehydrogenase activity using cell counting Kit-8. (CCK)

These cellular toxicity and viability assays determine the viability or non-viability of the cell in the given sample by the range of mechanisms . It is also an indicator for cellular proliferation. These cytotoxicity assays determine the change in the structural integrity of the cell like loss of membrane permeability or integrity, the ability of the cell to reduce any substrate, and several enzymatic processes. Upon cellular death, there will be a loss in membrane integrity that results in the out flux of cellular parts and enzymes along with the influx of substrates. Cell counting Kit-8 is based on this principle. As the number of live cells is high, then there will be an increase in the dehydrogenase activity of the cell, that in return convert more tetrazolium salt to yellow color dye (formazan). Hence more yellow color or dye formation indicates a greater number of live cells within a sample.

Similarly, several Studies introduce the use of cell counting Kit-8 for the detection and measurements of live bacteria within the samples. They revealed that Cell counting Kit-8 which is based on WST-8 and electron carrier (1-methoxy PMS) can be used for detection.

Studies reported that the CCK-8 assay along with the use of drug lymphocytes stimulation test can be used for the diagnosis of liver injuries that are induced by the drugs(ZuoPeng et al., 2016).

GLPbio found that when the k562 cells come in contact with the 50% 5-Aza-2’-deoxycytidine with an inhibitory dose of 15.55nmol/L, there will be the arrest of the cell cycle at the G2 phase which leads to a decrease in proliferation and finally the cells undergo apoptosis. Hence we can use the

cell counting Kit-8 assay to determine the effects of this drug on k-562 cells(MA., 2014).

The cell counting Kit-8 has various advantages to use in cell toxicity and proliferation to determine the viability of the cells. Methylene blue is considered toxic to nucleus pulposus cells. Studies suggest that cellular toxicity can be measured via cell counting Kit-8 assay. The researcher pointed out that the cells which have a high level of methylene blue become dead, that in turn leads to less absorbance value than that of the sample which has less level of methylene blue.

This is how the cell counting Kit-8 is helpful to measure the viability of cells.

Henry
GLP bio
+1 626-353-8530
sales@glpbio.com
