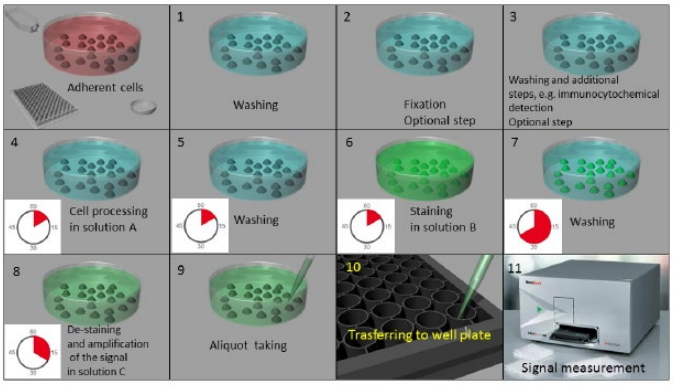
CellCount

Introduction:

The cell quantification represents the common task for many laboratories. Typical example of its use is the drug-discovery research. Presently, several methods are available. They are usually based on

- time-consuming direct calculation of cells using e.g. hemocytometer
- or, much easier determination of the relative cell concentrations by methods based on measurement of the activity of cellular enzymes or determination of cellular components by means of specific markers.



The procedures based on enzymatic reactions strongly depend on the metabolic state of cells and thus, do not necessarily reflect the cell number. In this respect, the methods based on the determination of cellular components e.g. DNA content can represent more reliable tool. As the determination of relative cell concentrations is sufficient in many studies, these methods represent common tool for routine cell quantification. Moreover, if necessary, the number of cells can be determined after the calibration of the signal using samples containing the known number of cells.

Description of invention:

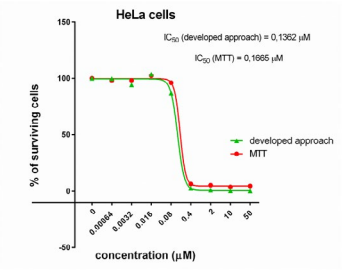
CellCount is a new technology for the quantification of the cell number based on the staining of cellular components. It does not require cell lysis for the signal homogenization, is fully compatible with other cytochemical detections of cellular components, e.g. with immunocytochemical detections or detection of replication activity by 5-ethynyl-2'-deoxyuridine or 5-bromo-2'-deoxyuridine and is convenient for both fixed and non-fixed samples. Signal can be easily measured by plate readers. In this respect, the technology can be also used for new kits providing data about cellular proliferation.

Key features:

- Cells can be cultivated in various types of vessels
- Less than 2 hours necessary for cell quantification
- Compatible with simultaneous DNA, RNA or protein staining procedures
- Unaffected by the metabolic state of cells
- Fast detection of fluorescent signal using plate readers
- Signal linearity between less than 100 and more than 80,000 of cells
- Samples can be stored for several weeks before evaluation
- Alternative technology to cytotoxicity tests
- No need for additional development
- Subtle change of kit composition allows for the simultaneous detection of DNA synthesis

Development status:

Prototype. More information is available upon signing a CDA/NDA



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Ownership:

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