

Chemiluminescent BrdU Cell Proliferation Assay Kit

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CATALOG #
AAA60511

PRODUCT SYNONYMS

Chemiluminescent BrdU Cell Proliferation; Chemiluminescent BrdU Cell Proliferation assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Store kit at -20 degree C until first use. Store at 4-8 degree C thereafter.

ADDITIONAL INFORMATION

Related Product Information for Chemiluminescent BrdU Cell Proliferation assay kit

Background: The BrdU Chemiluminescent Cell Proliferation Assay Kit is a non-isotopic enzyme immunoassay for the quantification of DNA synthesis and cell proliferation. Evaluation of cell cycle progression is essential for investigations in many scientific fields. Measurement of [3H] thymidine incorporation as cells enter S phase has long been the traditional method for the detection of cell proliferation. Subsequent quantification of [3H] thymidine is performed by scintillation counting or autoradiography. This technology is slow, labor intensive and has several limitations including the handling and disposal of radioisotopes and the necessity of expensive equipment. A well-established alternative to [3H] thymidine uptake has been demonstrated by numerous investigators. In these methods bromodeoxyuridine (BrdU), a thymidine analog, replaces [3H] thymidine. BrdU is incorporated into newly synthesized DNA strands of actively proliferating cells. Following partial denaturation of double stranded DNA, BrdU is detected immunochemically allowing the assessment of the population of cells which are actively synthesizing DNA. The BrdU Chemiluminescent Cell Proliferation Assay Kit involves incorporation of BrdU Reagent into cells cultured in microtiter plates using the cell layer as the solid phase. The resultant assay is rapid, easy to perform and applicable to high sample throughput. In addition to evaluation of cell proliferation, information such as cell number, morphology and analysis of cellular antigens can be obtained from a single culture.

Principle of the Assay: The BrdU Chemiluminescent Proliferation Assay Kit involves incorporation of BrdU Reagent into cells cultured in microtiter plates using the cell layer as the solid phase. During the final 2 to 24 hours of culture 1X BrdU Reagent is added to wells of the microtiter plate. BrdU Reagent will be incorporated into the DNA of dividing cells. To enable antibody binding to the incorporated BrdU, cells must be fixed, permeabilized and the DNA denatured. This is all done in one step by treatment with Fixative/Denaturing Solution. Prediluted Anti-BrdU Detector Antibody is pipetted into the wells and allowed to incubate for one hour, during which time it binds to any incorporated BrdU Reagent. Unbound Prediluted Anti-BrdU Detector Antibody is washed away and 1x Peroxidase Goat anti-Mouse IgG is added, which binds to the Prediluted Anti-BrdU Detector Antibody. The 1x Peroxidase Goat anti-Mouse IgG catalyzes the oxidation of diacylhydrazides. The reaction product, in its excited state, decays yielding light in the process. This reaction has a large dynamic range spanning many logs of relative luminescence. The intensity of the luminescence is proportional to the amount of incorporated BrdU Reagent in the cells. The reaction is quantified using a luminometer and is plotted as relative light units per second (RLU/s).

Intended Uses: The BrdU Chemiluminescent Cell Proliferation Assay Kit is a non-isotopic immunoassay for the quantitation of bromodeoxyuridine incorporation into newly synthesized DNA of actively proliferating cells.

Product Categories/Family for Chemiluminescent BrdU Cell Proliferation assay kit

Assay Kit; Bromodeoxyuridine

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.