The EdU assay is a biochemical method used to detect and quantify DNA synthesis in cells. EdU (5ethynyl-2'-deoxyuridine) is a modified nucleoside that is incorporated into newly synthesized DNA during the S-phase of the cell cycle. The EdU assay allows for the detection of cells that are actively undergoing DNA replication, providing insight into cell proliferation and the cell cycle.

In the EdU assay, cells are cultured in media containing EdU, which is incorporated into newly synthesized DNA during the S-phase of the cell cycle. After a period of incubation, the cells are fixed and permeabilized to allow for the detection of EdU using a fluorescent dye or a biotin-labeled antibody. The fluorescent dye or biotin-labeled antibody binds specifically to the EdU incorporated into newly synthesized DNA, allowing for the quantification of proliferating cells.

The EdU assay is a widely used alternative to the traditional BrdU assay, which uses the thymidine analog BrdU to label DNA. The EdU assay has several advantages over the BrdU assay, including higher sensitivity and faster detection times. It is also compatible with a wide range of imaging and flow cytometry techniques, making it a versatile tool for the study of cell proliferation in both in vitro and in vivo systems.

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