

CytoSelect Cell Viability and Cytotoxicity Assay Kit

CytoSelect Cell Viability and Cytotoxicity Assay

CATALOG #
AAA44525

PRODUCT SYNONYMS

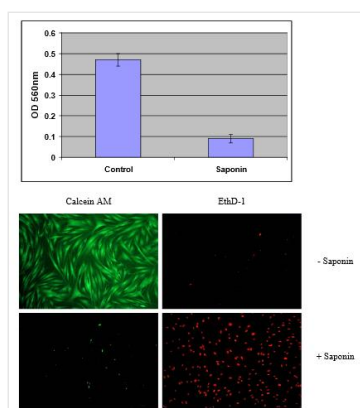
CytoSelect Cell Viability and Cytotoxicity Assay; CytoSelect Cell Viability and Cytotoxicity Assay assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Store the Calcein AM and Ethidium Homodimer at -20 degree C. Store all remaining kit components at 4 degree C until their expiration dates.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for CytoSelect Cell Viability and Cytotoxicity Assay assay kit	Principle of the assay: CytoSelect Cell Viability and Cytotoxicity Assay Kit provides a colorimetric and fluorometric format for measuring and monitoring cell viability. The kit contains MTT reagent, Calcein AM, and Ethidium Homodimer. Detergent and Lysis Buffer are provided for extracting the MTT reagent or the Calcein AM/EthD-1 from cell samples. Saponin, a cell death initiator, is also included as a control. The kit is suitable for use with light and fluorescence microscopes, colorimetric and fluorometric multiwell plate scanners, flow cytometers, and other colorimetric or fluorometric detection systems. The kit contains sufficient reagents for the evaluation of 96 assays in a 96-well plate, or 24 assays in a 24-well plate. Cells can then be treated with compounds or agents that affect viability. Live cells are detected with the MTT reagent as well as the Calcein AM. Dead cells are detected with the EthD-1 reagent. Finally, cell viability/cytotoxicity is determined using the colorimetric and fluorometric detection reagents. An increase in cell viability is accompanied by cell growth, while a decrease in cell viability can indicate the toxic effects of compounds or suboptimal culture conditions. The assay principles are basic and can be applied to most eukaryotic cell lines, including adherent and non-adherent cells and certain tissues. The kit does not react with bacteria or yeast. Background: The measurement and monitoring of cell viability is an essential technique in any laboratory focused on cell-based research. This skill allows for the optimization of cell culture conditions as well as the determination of cytokine, growth factor, or hormone activity. More importantly, the cytostatic nature of anticancer compounds in toxicology testing, the efficacy of therapeutic chemicals in drug screening, and cell-mediated cytotoxicity can all be assessed through the quantification and monitoring of cell viability and growth. Cell viability characteristics include cellular metabolic activity and cell membrane integrity. One method for measuring metabolic activity is to incubate the cells with a tetrazolium salt such as MTT, which is cleaved into a colored formazan product by metabolically active cells. The green fluorescent viability dye Calcein AM can measure intracellular esterase activity, which is another indicator of cell viability. Live cells can convert the nonfluorescent, cell-permeable polyanionic calcein acetoxymethyl (Calcein AM) dye to the highly fluorescent calcein. The cleaved calcein remains in the cells. Ethidium homodimer (EthD-1) is an excellent marker for measuring dead cells. EthD-1 is a red fluorescent dye that can only penetrate damaged cell membranes. EthD-1 will fluoresce with a 40-fold enhancement upon binding ssDNA, dsDNA, RNA, oligonucleotides, and triplex DNA. Background fluorescence levels are very low because the dyes are virtually non-fluorescent before interacting with cells. This method of detection is more efficient, safer, less expensive, and a more sensitive method for determining cell viability or cytotoxicity compared to traditional viability assays such as 51Cr release or trypan blue exclusion.
Product Categories/Family for CytoSelect Cell Viability and Cytotoxicity Assay assay kit	Cell Based Assays ; Cell Health Assays ; Cytotoxicity Assays ; Cell Viability and Cytotoxicity
References	1. Jacobsen MD, Weil M, Raff MC. (1996) J Cell Biol 133, 1041. 2. Papadopoulos NG, Dedoussis GV, Spanakos G, Gritzapis AD, Baxeavanis CN, Papamichail M. (1994) J Immunol Methods 177, 101. 3. Poole CA, Brookes NH, Clover GM. (1993) J Cell Sci 106, 685. 4. Wang XM, Terasaki PI, Rankin GW Jr, Chia D, Zhong HP, Hardy S. (1993) Hum Immunol 37, 264. 5. Weil M, Jacobson MD, Coles HS, Davies TJ, Gardner RL, Raff KD, Raff MC. (1996) J Cell Biol 133, 1053. 6. Zurgil N, Shafran Y, Fixler D, Deutsch M. (2002) Biochem Biophys Res Commun 290, 1573.

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.

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Online datasheet: <https://stage.aaabiotech.com/assay-kits/cytoselect-cell-viability-and-cytotoxicity-assay/44525>