



Cytotoxicity Assays

think proteins! think G-Biosciences!



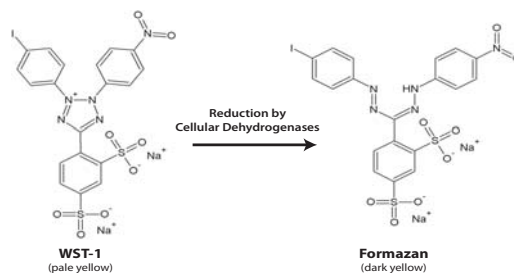
BIOSCIENCES®

CytoScan™ WST-1 Cell Cytotoxicity Assay

Cytotoxicity & Proliferation Colorimetric Assay

- Sensitive & Accurate
- Adherent or Suspension Cells
- Convenient; no washing, harvesting or solubilizing

Adherent or suspension cells are cultured in a microplate and then incubated with WST-1 and the assay is monitored with a spectrophotometer. WST-1 tetrazolium salt is reduced to formazan by cellular dehydrogenases (see figure), generating a deep yellow colored formazan that is measured at 420-480nm and is directly correlated to cell number. The kit components are sufficient for performing up to 500 assays.

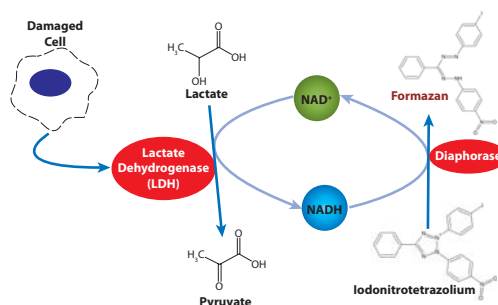


CytoScan™ -LDH Cytotoxicity Assay

A Colorimetric Assay for Cellular Cytotoxicity

- Sensitive & Accurate
- Quantitative Colorimetric Assay

The assay quantitatively measures the released cytosolic lactate dehydrogenase (LDH), due to cell lysis. LDH is measured with a coupled enzymatic reaction that results in the conversion of a tetrazolium salt (INT) into a red color formazan (see figure). The LDH activity is determined as NADH oxidation or INT reduction over a defined time period. The resulting formazan absorbs maximally at 492nm and can be measured quantitatively at 490nm.



CytoScan™ -SRB Cytotoxicity Assay

For Screening Cytotoxicity and Cell Death Compounds

- High Throughput Screening of Toxic Compounds
- Linear Response

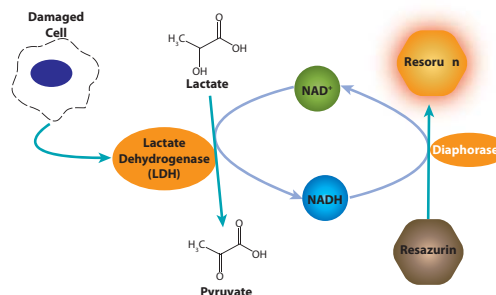
CytoScan™-SRB Cell Cytotoxicity Assay is an accurate and reproducible assay based upon the quantitative staining of cellular proteins by sulforhodamine B (SRB). Sulforhodamine B is an anionic aminoxanthene dye that forms an electrostatic complex with the basic amino acid residues of proteins under moderately acid conditions, which provides a sensitive linear response. The color development is rapid and stable and is readily measured at absorbances between 560 and 580nm. The kit components are sufficient for performing up to 1000 assays.

CytoScan™ -fluoro Cytotoxicity Assay

For Screening Cytotoxicity, Proliferation & Cell Death Compounds

- Fluorometric Assay
- Assay Performed Directly In Well
- Non Radioactive

CytoScan™-fluoro measures the release of lactate dehydrogenase (LDH) from cells with damaged membranes. Released LDH is measured directly in the cell culture wells with a coupled enzymatic assay that results in the conversion of a non-fluorescent compound (resazurin) to a fluorescent compound (resorufin), which can be detected with a fluorometer.



Cat. #	Description/ size
786-212	CytoScan™-WST-1 Cytotoxicity Assay/ 500 Assays
786-210	CytoScan™-LDH Cytotoxicity Assay/ 1000 Assays
786-213	CytoScan™-SRB Cytotoxicity Assay/ 1000 Assays
786-211	CytoScan™-fluoro Cytotoxicity Assay/ 500 Assays



Apoptosis Assays & Reagents

think proteins! think G-Biosciences!

CasPASE™ Apoptosis Assay Kit

Fluorometric and colorimetric assays in one

The CasPASE™ assay kit provides reagents for the detection of apoptosis by measuring the caspase activity - an early indicator of apoptosis. The assay can be monitored with a fluorescence reader, spectrophotometer, or a titer plate reader. The kit uses AFC-substrate (7-amino-4-trifluoromethyl coumarin conjugated at C-terminal) which exhibits both fluorescence and absorbance spectral shifts between the substrate-conjugate and the free dye (AFC). The AFC substrate is both chromogenic (yellow-green color visible to the naked eye) and fluorogenic (detected at 510-550 nm with a fluorometer). During the Caspase reaction, the substrate releases AFC free dye and undergoes both a fluorescence and absorbance shift. Since AFC-substrate exhibits dual-mode detection capability, arbitrary fluorescence values can be standardized to an optical density value.

When measuring fluorescence, the assay reaction is excited at 360-390nm and emission is read at 510-550nm. If the assay is measured with a spectrophotometer or a titer plate reader, the absorbance is measured at 360-390. Also, the assay can be conveniently adapted for high-throughput 96-well format. The assay system may be used with purified enzyme preparations, cell extracts or tissue lysates.

The CasPASE™ assay kits provide assays for a large selection of Caspase enzymes (i.e. Caspase-1-13). Each CasPASE™ assay kit is supplied with necessary assay buffers, enzyme specific AFC-substrate, free dye (AFC) and Caspase inhibitor Z-VAD-FMK for establishing proper positive and negative controls and standards.

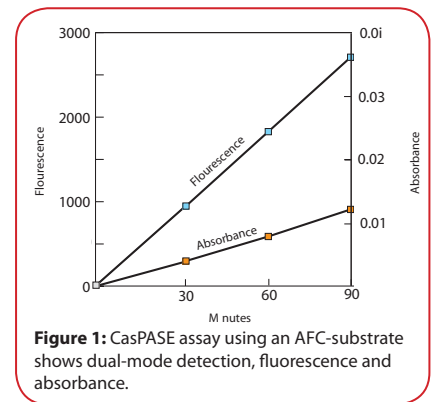


Figure 1: CasPASE assay using an AFC-substrate shows dual-mode detection, fluorescence and absorbance.



Individual Caspase Substrates & Inhibitors

Ready-to-use caspase substrates and inhibitors save time and money. These substrates are AFC-substrates supplied as 1mM ready-to-use solutions and recommended for use at 50µM in assays. The inhibitors are potent fluoromethyl ketone (FMK) based, non-toxic and membrane permeable. Supplied as 2mM ready-to-use solutions and are recommended for use at 1µl/ml in cell culture or caspase assays.

Apoptotic DNA Ladder Kit

The Apoptotic-LADDER™ kit contains all of the reagents necessary for the preparation of a nucleosomal DNA ladder. The nucleosomal DNA is detected on a 1.8% agarose gel.

Uninduced Lysate Controls

Uninduced control cell lysates are simple tools for studying apoptosis phenomenon. Useful as controls.

Active Recombinant Human Caspases

Active recombinant human caspases are useful in screening of caspase inhibitors and as positive controls for investigating apoptotic pathways, caspase activity assays and in determining caspase specificity. We offer Caspase-1 to Caspase-10.

Apoptosis Inducers

Ready-to-use high quality apoptosis inducers allow users an easy tool for the induction of apoptosis in cultured cells.

Ordering Information: For a complete listing of CasPASE™ Assay kits, substrates and inhibitors, prices, and ordering information, visit www.GBiosciences.com.