Tox Suite Non-radioactive assays for cell toxicity testing
**Technologies**

**PerkinElmer's Tox Suite portfolio offers** a wide array of sensitive, non-radioactive assays to study different aspects of cell growth and death. ATPlite™ assays allow you to assess cell vitality and the level of cell metabolism. DELFIA® cell proliferation assays can be used to enumerate cells by quantitating DNA synthesis of cells. Early events of apoptosis such as DNA fragmentation can be studied using a DELFIA assay or appearance of caspases with TruPoint™ technology.

These assays combined with the fast EnVision™ multilabel plate reader allow hits from HTS screens to be conveniently and efficiently evaluated. Screening compounds for their toxicological properties early in the drug discovery process is vital to lead optimization.

**Cell Metabolism**

**ATPlite**

Cellular damage will result in loss of ability to maintain and provide energy for metabolic cell function and growth. Luminescent ATPlite is a highly sensitive way to measure cellular ATP levels. ATPlite allows you to put together the perfect assay in less than 10 minutes! Since ATPlite is a homogenous assay with one plate preparation (from seeding cells to detection), it offers significant time and labor savings.

**Cell Proliferation**

**DELFIA Cell Proliferation Kit**

Cell proliferation assays encompass a characterization of compounds for their capability to either promote or retard cell growth. The DELFIA Cell Proliferation kit is based on quantitating changes in the level of DNA synthesis in cell populations to reflect the number of proliferated cells. During cell growth, 5-bromo-2'-deoxyuridine (BrdU) is incorporated into newly synthesized DNA. It is then immunochemically detected with the extraordinarily sensitive DELFIA assay. There is no need for radiochemicals, dyes or microscopes.
Cell Mediated Cytotoxicity
DELFIA Cytotoxicity Kit
Immunotoxicological effects of hits can be studied with the DELFIA Cytotoxicity Kit. The non-radioactive DELFIA method mimics the principle of the well-established $^{51}$Cr-release test. Compared to radiometric assays, release of the fluorescence enhancing ligand is fast, typically shortening assay times.

Apoptosis
TruPoint Caspase Reagents
DELFIA Eu-labeled Streptavidin
TruPoint Caspase-3 reagents can be used for measurement of caspase activity from apoptotic cell lysates (fresh or frozen). The assay is homogenous, sensitive and robust and applicable to HTS screens. TruPoint Assay Kits for caspase-6 and caspase-8 are also available. For other TruPoint substrates, please email at Labellingservices@perkinelmer.com.

Various sensitive, simple DELFIA assays using Europium (Eu)-labeled streptavidin have been used to study different apoptotic pathways. Complicated DNA fragment analysis can be simplified indirectly with Eu-labeled streptavidin (PerkinElmer application note #1234-9864).