Enzo

Cancer

Integrated Solutions for Basic Research & Translational Discovery

VWR® | vwr.com

We Enable Science

MODULATE IT. LABEL IT. DETECT IT.

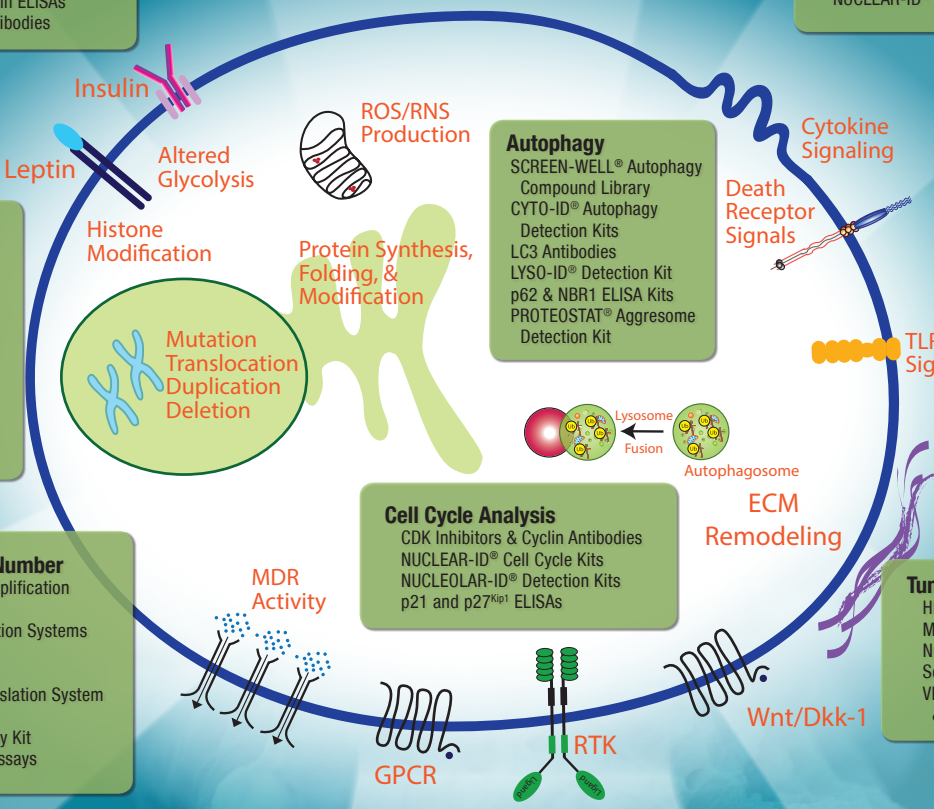
Warburg Effect
- MITO-ID® Extracellular O_2 Sensor Kit
- MITO-ID® Extracellular pH Sensor Probe

Oxidative Stress & DNA Damage
- DNA Damage (8-OHdG) ELISA Kit
- Heme Oxygenase Antibodies & ELISAs
- MITO-ID® Membrane Potential Assay Kits
- SCREEN-WELL® REDOX Compound Library
- ROS-ID® Hypoxia/Oxidative Stress Detection Kit
- ROS-ID® ROS/RNS Detection Kit
- ROS-ID® Total ROS/Superoxide Detection Kit

Apoptosis/Necrosis
- p53, Bax, Bcl-2, Survivin, XIAP, & Cytochrome c ELISA Kits
- Apoptosis/Necrosis Detection Kit
- Caspase Activity Assays
- Comet SCGE Assay Kit
- NUCLEAR-ID® Chromatin Condensation Kit
- NUCLEAR-ID® Cell Viability Reagents

Metabolism: Monitor Adipokine & Insulin Signaling
- Adiponectin Protein & ELISA Kit
- FLUOR DE LYS® SIRT5 Assay Kits
- GLP-1 Antibodies & ELISA Kit
- Human, Mouse & Rat Leptin ELISAs
- Insulin Receptor & IGF Antibodies

Tumor Immunology
- CRP ELISA
- Cytokine ELISA Kits
- POLYVIEW® PLUS IHC Detection Reagents & Kits
- MEGACD40L® Protein
- NF-κB p65 ELISA Kit
- PGE_2, TXB_2, LTB_4 ELISAs
- SUPERFASLIGANDS™ Protein
- TLR Signaling Antibodies
- TNF Abs & Proteins



Autophagy
- SCREEN-WELL® Autophagy Compound Library
- CYTO-ID® Autophagy Detection Kits
- LC3 Antibodies
- LYSO-ID® Detection Kit
- p62 & NBR1 ELISA Kits
- PROTEOSTAT® Aggresome Detection Kit

Epigenetic Regulation: Flexible Formats for HDAC & Sirtuin Screening
- Active HDAC & SIRT Enzymes & Substrates
- CHEMILUM DE LYS® HDAC/SIRT Assay Kit
- SCREEN-WELL® Epigenetics Compound Library
- Ubiquitinylation & SUMOylation Antibodies

Cell Cycle Analysis
- CDK Inhibitors & Cyclin Antibodies
- NUCLEAR-ID® Cell Cycle Kits
- NUCLEOLAR-ID® Detection Kits
- p21 and $p27^{Kip1}$ ELISAs

Gene Expression & Copy Number
- BIOARRAY™ Low Input RNA Amplification & Labeling Kit
- BIO-PROBE® Labeling & Detection Systems for *in situ* Hybridization
- CYTAG® CGH Labeling Kits
- Fluorescent dUTPs & Nick Translation System for FISH Probes
- FLOWSCRIPT® HPV E6/E7 Assay Kit
- PATHO-GENE® HPV Probes & Assays

Tumor Invasion & Angiogenesis
- HIF-1α and HIF-2α Abs & Modulators
- MMP Red & Green Fluorometric Kits
- NGAL ELISA Kit
- Serine Protease ELISAs & Abs
- VEGF & VEGFR ELISA Kits, Antibodies & Inhibitors

Toxicity & Chemoresistance
- eFLUXX-ID® Multidrug Resistance Assay Kit
- Microcystin Standards & ELISA Kit
- MITO-ID® and LYSO-ID® Cytotoxicity Assays
- SCREEN-WELL® FDA Approved Drug Compound Library
- SCREEN-WELL® Natural Products Compound Library
- SCREEN-WELL® Toxicity Compound Libraries

Oncogenic Signaling
- Akt, PKA & PKC Kinase Activity Kits
- cAMP/cGMP ELISA Kits
- Kinase & Phosphatase Inhibitor Compound Libraries
- PI3K/Akt/mTOR Antibodies & Modulators
- MAP Kinase ELISAs & Antibodies
- Ras/Rho/Rac1/Rap1 Activation Kits

Wnt Pathway Analysis
- Dkk-1, GSK-3β, & β-catenin ELISA Kits
- LEADING LIGHT® Wnt Reporter Assay
- SCREEN-WELL® Wnt Compound Library

Innovation to meet the needs of evolving cancer hallmarks

WHAT WILL THE NEXT CANCER HALLMARK BE?

Discover It.

Your aim may be to investigate cancer's genetic origins, establish the mechanism of action or clinical implications of tumor biomarkers, or develop a targeted pharmaceutical or cellular therapy. At Enzo, our aim is to support your research. As cancer hallmarks have evolved over the last decade, so has our portfolio of tools to support cancer research. Over this time, we have called upon our diverse scientific and technical expertise to create innovative assays and reagents in the fields of epigenetics, autophagy, and Wnt research. These novel tools, and a broad portfolio of products established for decades in peer-reviewed literature, will help support cancer discovery into the next decade and beyond.

Cancer Hallmarks

- Proliferative Signaling
- Evading Growth Suppression
- Resisting Cell Death
- Activating Invasion & Metastasis
- Enabling Replicative Immortality
- Inducing Angiogenesis
- Deregulating Cellular Energetics
- Avoiding Immune Destruction
- Genome Instability & Mutation
- Tumor-Promoting Inflammation

Complete Solutions

Caspase Activity Assays
CYTO-ID® Autophagy Detection Kits
Cytokine/Eicosanoid ELISA Kits
FLOWSCRIPT® HPV E6/E7 Assay
HDAC/SIRT Activity Assay Kits
POLYVIEW® PLUS IHC Detection Kits
IHC Validated Antibodies
IHC HIGHDEF® Chromogens
LEADING LIGHT® Wnt Reporter Assay
MITO-ID® O_2 and pH Sensors
MMP Activity Assays
Nucleic Acid Labeling Kits
p62 & NBR1 ELISA Kits
PATHO-GENE® HPV Probes
ROS-ID® ROS/RNS Detection Kits
Serine Protease ELISA Kits
SCREEN-WELL® Wnt, Epigenetics, Autophagy Libraries

Modulate it.

We carry over 3,000 biologically characterized small molecules and the industry's most diverse collection of compound libraries. Our SCREEN-WELL® libraries of kinase inhibitors, toxicity screening libraries, epigenetic regulators, natural products, and pathway-targeting compounds are complemented by innovative HDAC, Sirtuin, and MMP enzyme activity assays, and high-purity, high-activity recombinant proteins for Wnt, TNF ligands, and more.

Label it.

Our proprietary nucleotide labeling technology produces high-yield nucleotide-amplification and incorporation of fluorophore- or biotin-conjugated nucleotides. The result is industry-leading consistency for gene copy number and expression analysis by CGH, microarray, FISH, IHC, and *in situ* hybridization.

Detect it.

As a trusted manufacturer of thousands of widely cited and thoroughly validated antibodies, ELISA kits, and cell-based assays, we understand quality means delivering sensitivity, specificity, and consistency. Over 300 immunoassays and 3,000 antibodies enable sensitive and specific detection of protein and small molecule biomarkers. Monitor cell viability, death, and toxic responses with CELLESTIAL® probes for live cell analysis.

SINGLE CELL DETECTION OF mRNA

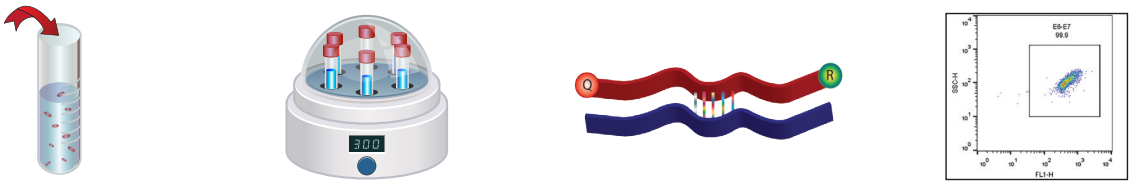
Multiplex Analysis of Genotypic and Phenotypic Markers via Flow Cytometry

FLOWSCRIPT® HPV E6/E7 Assay Kit (10014-526)

The assay employs a novel *in situ* hybridization technique utilizing a cocktail of probes specific to multiple sites within the E6 and E7 genes to ensure the detection of these mRNA transcripts. This homogeneous assay can be performed in less than 3 hours and is specific for the most prevalent high-risk HPV genotypes.

- Homogeneous system omits washing following hybridization and thereby minimizes both leakage and signal degradation resulting in:
  - » More reliable, consistent results
  - » Fewer steps and improved ease-of-use
- Optimized to reduce false positives
- Adaptable to high-throughput platforms for rapid sample analysis
- Minimal sample volume input saves precious samples for additional analysis

Results in Less Than 3 Hours



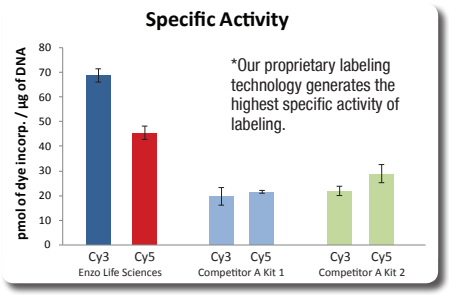
FIX ⇨ **WASH** ⇨ **HYBRIDIZE** ⇨ **ANALYZE**

GENE EXPRESSION & COPY NUMBER DETECTION

CYTAG® CGH Labeling Kit (10014-576 / 10014-578)

Array-based comparative genomic hybridization (aCGH) is a powerful platform for detecting DNA copy number gains and losses associated with chromosomal abnormalities in genetic diseases and cancers. The proprietary labeling technology and high-performance dyes incorporated into our aCGH kits enhance performance with commonly implemented microarray platforms (e.g., Agilent® arrays). Superior labeling technology results in more uniform dye incorporation so that comparisons between genomes is done at higher resolution and with improved signal-to-noise ratios.

- High quality data provides fewer errors (false positive or false negative) and less time with manual analysis of the data
- Generates the highest quality DLR scores (0.09 – 0.12), exceeding industry standards
- Increased resolution for comprehensive, unbiased analysis of DNA copy number changes
- Performs total genomic DNA analysis without amplification or complexity reduction
- Proprietary labeling technology generates the highest specific activity of labeling



Gene Expression & Transcript Analysis with BIOARRAY™ Amplification and Labeling Systems

RELATED PRODUCTS	
Product Name	**Cat. No.**
BIOARRAY™ Low Input RNA Amplification and Biotin Labeling System	10014-574
BIOARRAY HIGHYIELD® RNA Transcript Labeling Kit	89165-768 / 89165-770 / 89165-776
BIOARRAY™ Eukaryotic Hybridization Controls	89165-778 / 89165-780

BIOARRAY™ Single-round RNA Amplification and Labeling System (89165-744, 89165-746)
Greater biotin incorporation allows improved data quality and analysis of Affymetrix GeneChip® arrays

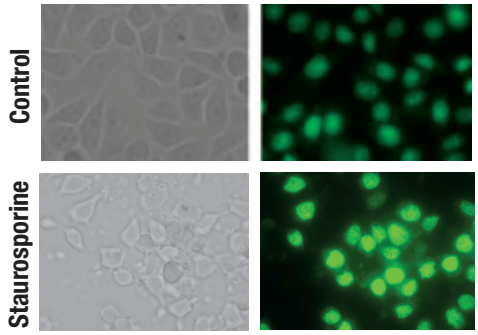
Cancer research…we're enabling it.

LIVE CELL ANALYSIS

NUCLEAR-ID® Green Chromatin Condensation Kit (89165-906)

- Condensation-sensitive fluorescent dye excitable with standard 488 nm laser
- Intercalating dye with superior permeability with any live cell line
- Easy no-wash, mix-and-read protocol for microplates, flow cytometry, and microscopy

Convenient Alternative to Hoechst Dyes That Require 350 nm UV Laser for Detection

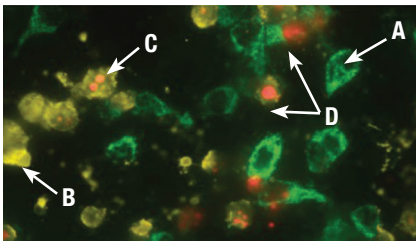


Chromatin condensation as observed by fluorescence microscopy using a standard 488 nm laser. HeLa cells were treated for 4 hours with DMSO (Control) or 2 µM Staurosporine on a slide and stained with 5 µM NUCLEAR-ID® Green dye. The intercalating dye exhibits increased fluorescence upon chromatin condensation, a hallmark of apoptosis.

GFP-CERTIFIED® Apoptosis/Necrosis Detection Kit (89165-866 / 89165-868)

- True multiplexing capabilities with GFP and other green fluorescent probes
- Optimized for both fluorescence microscopy and flow cytometry applications
- Suitable for death pathway analysis and drug/toxin studies

Identify Different Stages of Apoptosis



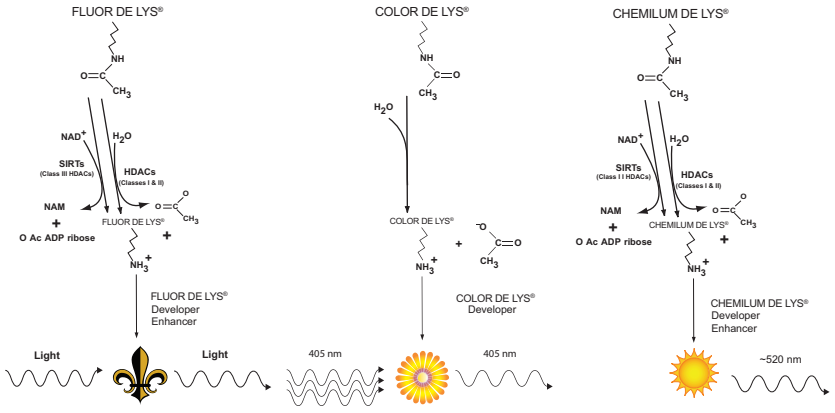
A. Viable cells **B. Early apoptotic cells**
C. Late apoptotic cells **D. Necrotic cells**

GFP-CERTIFIED® Apoptosis/Necrosis Detection Kit (89165-866 / 89165-868) detects four distinct cell states. Mitochondrial GFP-expressing HeLa cells were treated with 2 µM Staurosporine for 4 hours. The Apoptosis Detection Reagent (Gold) and Necrosis Detection Reagent (Red) specifically detect cell states with clear spectral separation from mitochondria-associated GFP signal. Healthy cells (A), cells undergoing apoptosis (B), cells undergoing late-stage apoptosis (C), and necrotic cells (D).

HDAC/SIRT SCREENING ASSAYS

Choose A Format to Fit Your Needs

FLUOR DE LYS®	COLOR DE LYS®	CHEMILUM DE LYS®
Robust fluorescent screening assays	Option for standard absorbance plate readers	Ideal for cross-validation of fluorescent assays



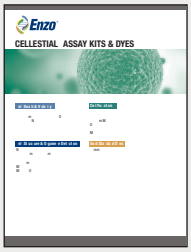
Flexible HDAC & Sirtuin Assays

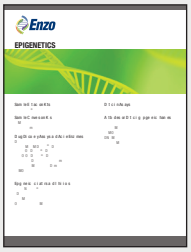
- *Non-radioactive, homogeneous, HTS compatible formats*
- *Green & chemiluminescent assays available to minimize interference*
- *Assay all HDAC classes from multiple sources*
- *High-activity, in-house manufactured control enzymes*

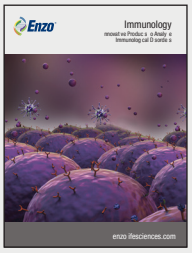
FEATURED ENZYME ACTIVITY ASSAYS

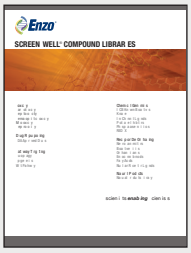
Description	Cat. No.
Acetyltransferase Activity Kit	89141-678
Calcineurin Phosphatase Assay Kit	89156-550
DPPIV Drug Discovery Kit	89156-500
CHEMILUM DE LYS® HDAC/SIRT Chemiluminescent Drug Discovery Kit	10033-580
FLUOR DE LYS® HDAC Fluorometric Activity Assay Kit	89156-502
FLUOR DE LYS® Green HDAC Fluorometric Activity Kit	89156-516
FLUOR DE LYS® SIRT1 Fluorometric Drug Discovery Kit	89156-522
MMP-1 Colorimetric Drug Discovery Kit	89156-458
MMP-9 Colorimetric Drug Discovery Kit	89156-470
PKA Kinase Activity Kit	89141-834
PKC Kinase Activity Kit	89141-838
Akt Kinase Activity Kit	89141-836

You may also be interested in:









Put our experience to work for you!

Our broad range of scientific expertise and industry-proven manufacturing capabilities, enables us to provide a comprehensive set of solutions for studying cancer research.

VWR® We Enable Science

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