



Exclusivas Pascual y Furio
Telf 96 134 37 45; Fax 96 134 33 50
www.pascualyfurio.com
C/. Islas Canarias, 1.
Pol.Ind. Fuente del Jorro- 2º Fase
46988 PATERNA (Valencia)

CARDIOVASCULAR

Discover, Analyze & Quantify
Cardiovascular Biomarkers

PUMP UP YOUR RESEARCH

Tools For Discovery & Detection of Cardiac Disease Markers

The cardiovascular or circulatory system provides the body with essential nutrients and oxygen. Besides its nourishing function, it also plays a crucial role in inflammation and fighting infections, maintaining homeostasis, transporting hormones, and stabilizing body temperature. It also assists the body in recovering from damage and trauma. Although the system is extremely resilient, repeated or continuous stress can cause long-term damage and lead to cardiovascular diseases such as heart failure and stroke.

Cardiovascular disease is consistently ranked as the single largest cause of death in the world, and it may be caused by heart damage or vascular problems. Challenges in cardiovascular clinical development have caused researchers to take a closer look at cardiac function and metabolism. Enzo Life Sciences offers a comprehensive portfolio of products to enable discovery of cardiac risk factors as well as analysis of the cellular response to novel therapeutics for cardiovascular medicine.

Signal Transduction

cAMP ELISAs
cGMP ELISAs

Ion Channels

Calcineurin Activity Assay
Ion Channel Ligand Library
FluoForte® Kits

Blood Clotting & Fibrinolysis

Fibrinogen ELISA Kit
Plasminogen ELISA Kit
Abs (Fibrinogen, D-dimer)

Vasorelaxation & Vasoconstriction

Endothelin ELISA Kit, proteins, Abs
Leukotoxin A, B
Angiotensin ELISAs

Angiogenesis

MMP Activity Assays
Netrin ELISA Kit
Angiopoietin-related protein Abs

Heart Failure

Troponin I ELISA Kit
Galactin-3 mAb
Hypoxia Detection Kit
Apoptosis/Necrosis Detection Kit

Molecular Pharmacology

Cardiotoxicity Library
Hematopoietic Toxicity Library

Diagnosis & Monitoring

11-dh-TXB₂ ELISA Kit
COX Activity Assay
Natriuretic peptide Abs

Cardiovascular Diseases

PGE₂ ELISAs
Cytokine ELISAs
Adiponectin ELISA Kit

RELATED PRODUCTS

Immunohistochemistry

MultiView™ Multiplex Detection Kits
Unique Chromogens
Validated Abs
Ancillaries

Immunoassays & Antibodies

As a trusted manufacturer of thousands of widely cited and thoroughly validated ELISA kits and antibodies, we understand quality means delivering sensitivity, specificity, and consistency. With over 300 immunoassay and detection kits, 3000 antibodies, and a complete set of IHC reagents, Enzo enables sensitive & specific analysis of cardiac biomarkers to determine the source and consequence of cardiovascular injury.

Small Molecule Chemistry

More than 3000 biologically characterized small molecules and the industry's most diverse collection of compound libraries for predictive toxicology. Our catalog includes hundreds of REDOX compounds, natural products, and bioactive lipids available as ready-to-screen Screen-Well® libraries or as individual and bulk compounds. Learn more about our Screen-Well® Cardiotoxicity library which includes compounds with defined and diverse cardiotoxicity.

Cell Based Assays

Our CELLestial® portfolio of fluorescent probes and assay kits for cellular analysis provides a complete set of tools for monitoring cell viability, proliferation, death, oxidative stress and toxicology. Our dye-based assays have been optimized for the most demanding imaging applications including confocal microscopy, wide-field fluorescence microscopy, flow cytometry, and high content screening, where consistency and reproducibility are essential.



VASCULAR BIOLOGY – EVALUATE VASCULAR GROWTH, INFLAMMATORY RESPONSES AND COAGULATION

A complete portfolio of assays, enzymes and compounds to study vascular development, regulation and disease

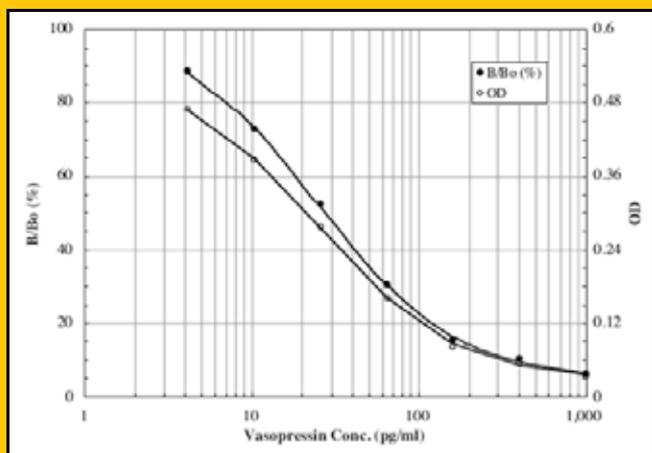
VASCULAR GROWTH AND MAINTENANCE

A Trusted Source for Arg⁸-Vasopressin Detection

Arg⁸-Vasopressin ELISA Kit (ADI-900-017)

Also known as antidiuretic hormone, vasopressin is involved in blood vessel constriction and blood pressure increase.

- Widely cited in numerous peer-reviewed journals
- Flexible use for sample types including urine, perfusates, plasma, tissue, and serum
- Specific detection with negligible reactivity towards related molecules



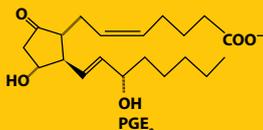
INFLAMMATION & DISEASE

Flexible Formats for Quantification of Prostaglandins

PGE₂ Immunoassays

Prostaglandin E₂ is an eicosanoid closely associated to the thromboxanes, and can act as a potent vasodilatory agent, as well as being pyrogenic during infection.

- Ultrasensitive ELISAs to measure as little as 8.26 pg/ml PGE₂
- Compatible with culture supernatants, serum, saliva, urine, whole blood and more
- Widely cited in peer reviewed literature for over two decades
- High throughput assays in colorimetric, chemiluminescent, and fluorescent readouts
- Time-tested manufacturing provides consistent lot-to-lot results



PGE₂ IMMUNOASSAYS

PRODUCT NAME	PRODUCT #
PGE ₂ ELISA Kit	ADI-900-001
PGE ₂ high sensitivity ELISA Kit	ADI-930-001
PGE ₂ CLIA (chemiluminescent) Kit	ADI-910-001
PGE ₂ FPIA (fluorescent) Kit	ADI-920-001

CLOTTING AND FIBRINOLYSIS

PRODUCT NAME	PRODUCT #
Fibrinogen ELISA Kit	ADI-900-230
Plasminogen ELISA Kit	ADI-900-231
Fibrinogen, mAb (1D6)	BPD-HYB-051-04
D-dimer, mAb (22)	BPD-ABS-015-22
GSNO	ALX-420-002
Puerarin	ALX-350-249

ANGIOGENESIS AND VASCULAR REGULATION

PRODUCT NAME	PRODUCT #
MMP-2 Colorimetric Drug Discovery Assay	BML-AK408
Netrin-4 (human), Detection Set	AP0-54N-033
Angiotensin A ELISA Kit	ADI-900-207
Angiotensin I ELISA Kit	ADI-900-203
Angiotensin II ELISA Kit	ADI-900-204
VEGF (human), ELISA Kit	ADI-900-080
Nitric Oxide (NO ₂ /NO ₃) Detection Kit	ADI-917-010
ANGPTL4 (human), (recombinant)	ALX-201-338

Arteriosclerosis is one of the most common disorders of the vascular system, associated with a large number of factors including inflammation, lifestyle and diet. We offer several sensitive, highly reliable products tailored to study the role of inflammation and disease in the vascular system.

INFLAMMATION

PRODUCT NAME	PRODUCT #
IL-6 (human), ELISA Kit	ADI-900-033
IL-8 (human), ELISA Kit	ADI-900-156
IL-10 (human), ELISA Kit	ADI-900-036
IL-17A (human), ELISA Kit	ADI-900-177
IL-33 (human), ELISA Kit	ADI-900-201
IL-1 Receptor Type I (h):Fc (h)(recombinant)	ALX-522-057
IL-35 (h):Fc (h) (recombinant)	ALX-522-140
IL-33, mAb (Nessy-1)	ALX-804-840

VASCULAR DISEASES

PRODUCT NAME	PRODUCT #
Cyto-ID® Autophagy Detection Kit	ENZ-51031
FABP4 (human), ELISA Kit	ALX-850-378
Haptoglobin ELISA Kit	ADI-900-229

CARDIAC FUNCTION – MONITOR SIGNAL TRANSDUCTION IN CARDIAC MUSCLE

High-purity antibodies and flexible activity assays for the complete analysis of cardiac activity

MONITOR CALCIUM MOBILIZATION

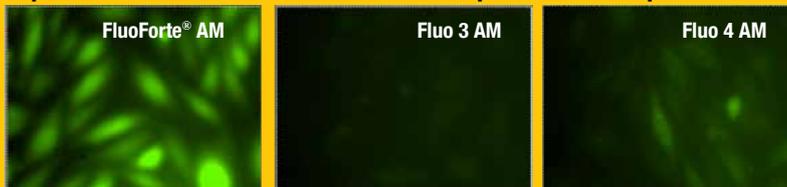
A Brighter, More Robust Fluorescent Assay for Calcium Mobilization

FluoForte® Calcium Assay Kits (ENZ-51017)

Intracellular calcium mobilization is critical to maintaining cellular depolarization during ventricular contraction. Enzo FluoForte dyes are optimized for high-throughput detection of intracellular calcium in living cells such as cardiomyocytes.

- Dye optimized for superior cell-permeability and retention
- Economical alternative developed for use with conventional dual-dispensing microplate readers
- Provides EC₅₀ values comparable to Fluo-4 and Calcium 4
- Optional red dye enables multiplexing with green fluorophores

Superior Detection of Calcium Mobilization Compared to the Competition



PRODUCT NAME	PRODUCT #
FluoForte® Calcium Assay Kit for Microplates, 10 plates	ENZ-51016
FluoForte® Calcium Assay Kit for Micropolates, 100 plates	ENZ-51017
GFP-Certified® FluoForte® Assay Kit for Microplates	ENZ-51020
FluoForte® Reagent, 5x50ug	ENZ-52014
FluoForte® Reagent, 1mg	ENZ-52015
GFP-Certified® FluoForte® Reagent	ENZ-52016

FluoForte exhibits significantly brighter fluorescence intensity than Fluo-3 AM and Fluo-4 AM. Evaluation of relative dye fluorescence. U2OS cells were seeded overnight, growth medium was removed, and cells were incubated with 100 µl of FluoForte® AM, Fluo-3 AM, or Fluo-4 AM in HHBS at 37 °C, 5% CO₂ incubator for 1 hour. The cells were washed twice with 200 µl HHBS, and ATP (20 µL/well) was added to achieve concentrations of 200 nM with dye efflux inhibitor. Cells were then immediately imaged with a fluorescence microscope (Olympus IX71) using FITC channel.

SCREEN FOR INHIBITORS OF PHOSPHATASE ACTIVITY

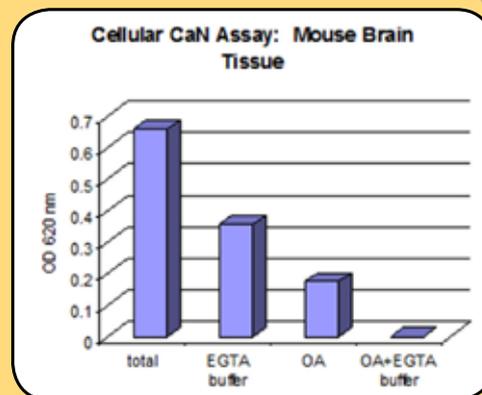
Highly Cited Assay for Detection of Calcineurin Activity in Cardiac Myocytes

Calcineurin Cellular Activity Assay (BML-AK816)

Calcineurin, a protein phosphatase involved in immune cell signaling, is a target for inhibitors, such as everolimus, which are used in heart transplantation to prevent rejection.

- Uses RII phosphopeptide, the most efficient and selective calcineurin substrate
- Convenient 1-step detection
- Suitable for high-throughput cellular analysis
- Nonradioactive

Calcineurin Cellular Assay Using Mouse Brain



Phosphatase activity from a freshly prepared mouse brain extract. Prior to gel filtration the extract was diluted 1:1 in lysis buffer containing protease inhibitors. After gel filtration and prior to the phosphatase assay, the extract was diluted 1/25 in lysis buffer. The reaction was incubated for 30 min at 30°C.

DETECT MARKERS OF MYOCARDIAL INFARCTION

Highly specific, validated antibodies for natriuretic peptide detection

Natriuretic Peptide Antibodies

The brain natriuretic peptide (BNP) and atrial natriuretic peptide (ANP) are synthesized in cardiomyocytes in response to various forms of stress, and have a powerful vasodilatory effect. In clinical settings, normal levels of BNP and ANP can be used to rule out myocardial infarction.

PRODUCT NAME	PRODUCT #
Atrial natriuretic peptide, pAb	BML-AA1105
Atrial natriuretic peptide, mAb (23/1)	BML-AA6244
Atrial natriuretic peptide, pAb	BML-AZ1072
Brain natriuretic peptide, pAb	BML-BA1117
Brain natriuretic peptide	BML-BP9117

SENSITIVE AND HIGHLY RELIABLE ASSAYS & REAGENTS FOR THE EVALUATION OF CARDIAC DISEASE STATES

A full range of antibodies, detection and activity assays for the reliable detection of cardiac disease biomarkers.

PREVENTION, DIAGNOSIS & MONITORING

CARDIAC INJURY

Most Sensitive ELISA for Detection of Troponin I **Troponin I ELISA Kit (ADI-900-228)**

Troponin I is an inhibitory troponin subunit that acts in muscle relaxation and which, in its cardiac isoform, is a reliable marker of cardiac injury when identified in elevated levels in the bloodstream.

- Most sensitive ELISA, detecting as little as 0.38 ng/ml of human troponin
- Flexible sample types, including: cell lysates, plasma, and serum
- Simple protocol with results in just 3.5 hours
- Quantitative results as compared to Western blot analysis

PRODUCT NAME	PRODUCT #
11-dehydro-TXB₂ ELISA Kit	ADI-900-092
TXB₂ ELISA Kit	ADI-900-002
COX Activity Assay	ADI-907-003
ADMA (human), ELISA Kit	ALX-850-323
ADMA direct (mouse/rat), ELISA Kit	ALX-850-327
Thromboxane B₂, pAb	ADI-905-005
mTOR, pAb	ALX-210-065
Eicosapentaenoic Acid	BML-FA001
Gingerol	BML-CA422
Bufalin	BML-AP303
Rapamycin	BML-A275

VITAMIN D DEFICIENCY

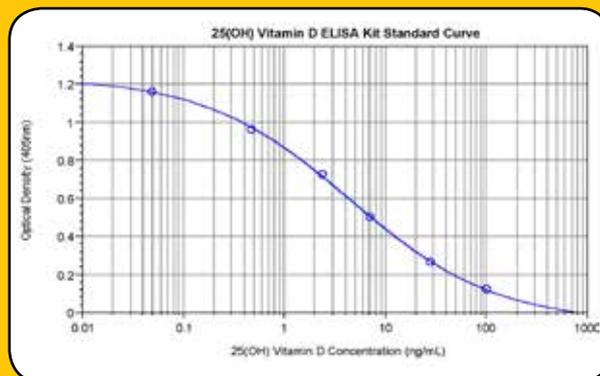
The Fastest High-Sensitivity Vitamin D ELISA **25(OH) Vitamin D ELISA Kit (ADI-900-215)**

Low levels of vitamin D, an essential secosteroid, has been linked with an increased risk of heart disease and hypertension. Precise measurements of 25-hydroxyvitamin D in serum are critical to identify cardiac risk factors and to prevent vitamin D deficiency. The 25(OH)-Vitamin D assay is quick and accurate, making it the tool of choice for 25(OH)-Vitamin D detection.

- Rapid incubation times ensure results in as little as 1.5 hours
- Wide detection range allows more precise quantification than by blot analysis

RELATED PRODUCTS

PRODUCT NAME	PRODUCT #
25-Hydroxyvitamin D3	BML-DM100
1α, 25-Dihydroxyvitamin D3	BML-DM200
Osteopontin (human), ELISA Kit	ADI-900-142
Osteoprotegerin (human), ELISA	ALX-850-280



CARDIOVASCULAR DRUG DISCOVERY

Innovative Tools for Profiling Cardiac Toxicity **Screen-Well® Cardiotoxicity Library (BML-2850)**

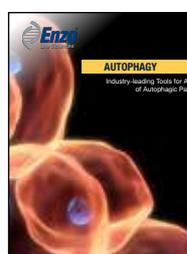
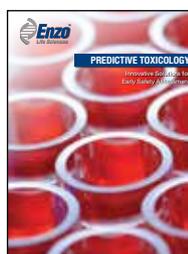
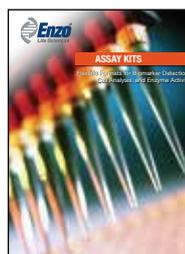
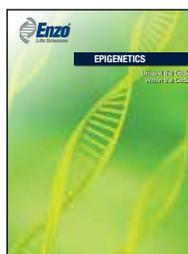
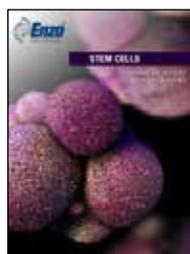
A focused collection of 131 compounds with defined and diverse cardiotoxicity. The library includes a variety of structurally and mechanistically different compound classes, as well as nontoxic controls. The compounds are dissolved in DMSO at 10mM and aliquoted into deep-well plates. The library is an essential tool for predictive toxicology screening and assay development.

- Arrhythmia
- Cardiomyocyte apoptosis
- Carditis
- Fibrosis
- Hypotension/Hypertension
- Ion Channel Blockage
- Mitochondrial Toxicity
- Non-cardiotoxic Controls
- Thrombosis

RELATED PRODUCTS

PRODUCT NAME	PRODUCT #
Autophagy Library	BML-2837
Bioactive Lipids Library	BML-2840
Epigenetics Library	BML-2836
FDA-Approved Drug Library V2	BML-2843
Hematopoietic Toxicity Library	BML-2852
Ion Channel Ligand Library	BML-2805
Wnt Library	BML-2838

You may also be interested in:



ENZO LIFE SCIENCES
Global Headquarters
10 Executive Blvd.
Farmingdale, NY 11735
Phone: 800.942.0430
Fax: 631.694.7501
info-usa@enzolifesciences.com
www.enzolifesciences.com

ENZO LIFE SCIENCES
Europe
Enzo Life Sciences (ELS) AG
Industriestrasse 17
CH-4415 Lausen, Switzerland
Phone: +41 61 926 8989
Fax: +41 61 926 8979
info-eu@enzolifesciences.com
www.enzolifesciences.com

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