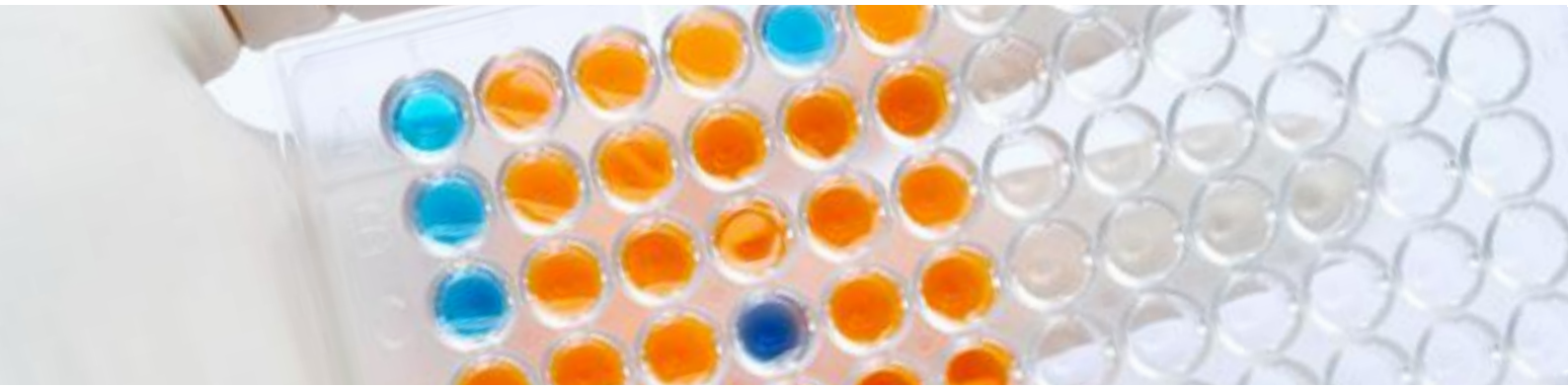
Enzo® Life Sciences

IMMUNOASSAY KITS



Bioprocess
Cancer
Cardiovascular
Cell Death
Cell Signaling
Cyclic Nucleotides
Cytokines
Eicosanoids
Endocrinology/Hormones
Epigenetics
Immunology
Immunity/Inflammation
Metabolism
Neuroscience
Oxidative Stress
Proteostasis/Chaperones

scientists ***enabling*** scientists.™

CONTENTS

ENTRUST YOUR PRECIOUS SAMPLES WITH US

Assay kits can be convenient time-saving tools to help accelerate your research, but not all assays are created equal. Some that promise convenience fail to deliver biologically relevant sensitivity, or the reproducibility needed for long-term studies. This can cost you more time and money in the end.

Detect Small and Large Analytes Accurately and Efficiently

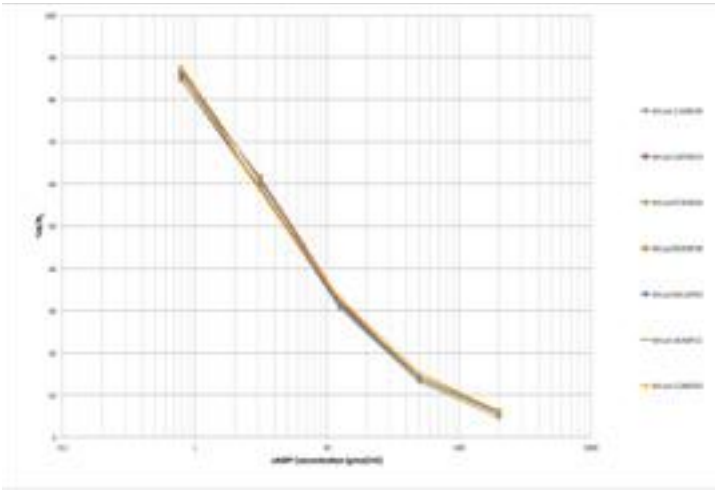
Whether you use ELISA kits for biomarker detection, assess cellular function with fluorescent probes, or screen enzyme modulators with activity assays, every Enzo assay kit includes something a lot of other companies out there today can't -- Experience.

It takes more than just an antibody pair to make an ELISA. Building an immunoassay requires screening multiple antibodies, selection of appropriate standards and conjugates, establishing proper sample prep protocols, and validation of the assay in relevant matrices. Our expertise in developing ELISAs is further backed by over two decades of manufacturing excellence. Strict validation criteria and state-of-the-art manufacturing facilities deliver reproducible assays that continue to be cited in peer-reviewed publications by scientists around the world.

Enzo Life Sciences offers hundreds of ELISA kits in both immunometric and competitive assay formats. As scientists and manufacturers of kits, we understand the critical nature of your research. Each kit is put through rigorous testing to ensure high precision, accuracy, sensitivity, and specificity. You can be confident that you will obtain reproducible results, day-after day and lot-after-lot.

Strict QC Guidelines Ensure Consistent Results, Lot-after-Lot

Reliable Data Lot After Lot

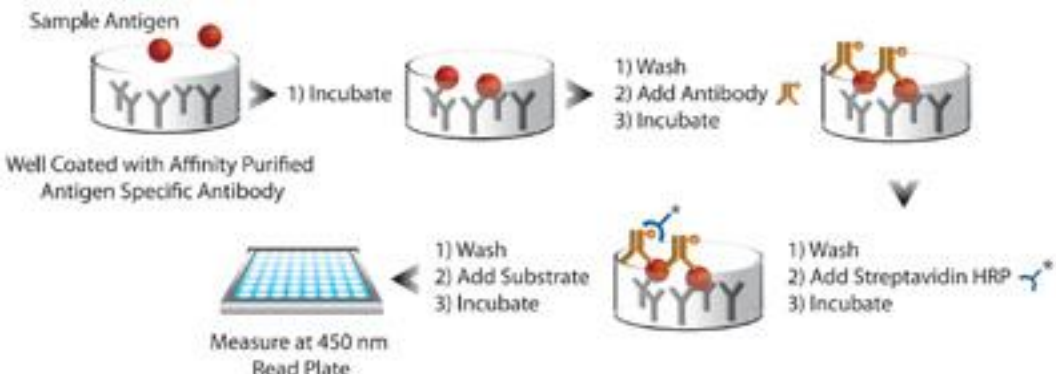


The graph above demonstrates the robust nature of our assays, showing standard curves for 7 lots of our competitive ELISA for cyclic AMP manufactured over 3 years.

THE BASICS OF IMMUNOASSAYS

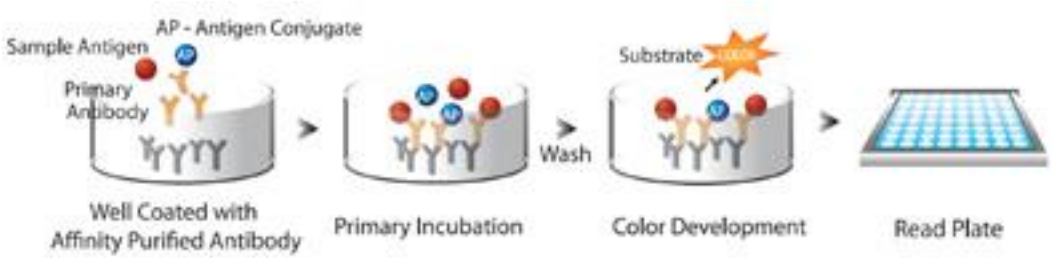
Understanding the basic principles of immunoassays is easy. The essential components of antibody-based immunoassay systems are threefold: an antigen to detect and perhaps quantitate; a specific antibody to this antigen; and a system to measure the amount of antigen in a given sample. Although it appears to be a very simple system, in many cases a number of other assay materials are necessary to allow for quick and convenient measurement.

Immunometric/Sandwich ELISA



Immunometric assays, also known as sandwich ELISAs (enzyme-linked immunosorbent assay), use two antibodies specific to the antigen to capture or "sandwich" antigen in the well for detection. Immunometric assays exhibit a direct correlation between antigen concentration and substrate response. Immunometric assays typically employ a "capture" antibody coated on the plate to bind the antigen of interest. During a second incubation, the antigen is bound by a second "detection" antibody that is also specific to the antigen. The detection antibody can either be bound by a secondary antibody-enzyme conjugate, or the detection antibody itself is enzyme-conjugated. When chromogenic substrate is added to the assay to develop color, samples with high antigen concentration generate more signal than those with low antigen concentration, producing a signal directly proportional to the amount of antigen in the sample. This correlation can then be used to extrapolate the concentration of antigen in an unknown sample from a standard curve.

Competitive ELISA



In competitive enzyme immunoassays (EIA) the antigen in a sample competes for limited antibody binding sites with antigen conjugated to a reporter enzyme. This produces an inverse relationship between antigen concentration and substrate turnover. Competitive EIAs typically use a single antibody to a small molecular weight antigen, generally less than 10,000 Daltons. During incubation, samples with high antigen content result in unlabeled antigen being bound in greater amounts than conjugated antigen. When chromogenic substrate is added to the assay to develop color, samples with high antigen concentration generate a lower signal than those containing low antigen concentration, yielding the inverse correlation between antigen concentration in the sample and color development in the assay. This relationship can then be used to extrapolate antigen concentration in an unknown sample from a standard curve. This type of reaction is one of the few methods possible for small molecular weight antigens, such as steroids, drugs, lipids and peptides.

ELISAs BY TARGET & RESEARCH AREA

Target	Alternative Names	PAGE #	Bioprocess	Cancer	Cardiovascular	Cell Death	Cell Signaling	Cyclic Nucleotides	Cytokines	Eicosanoids	Endocrinology/ Hormones	Epigenetics	Immunology/ Inflammation	Metabolism	Neuroscience	Oxidative Stress	Proteostasis (HSP)
Adiponectin	ACRP30, ADIPOQ, GBP28, Adipocyte C1q and collagen domain-containing protein, Gelatin-binding protein, ACDC, APM1	29							•		•			•			
ADMA		32														•	
Akt	PKB, Protein kinase B	16				•											
Aldosterone		20					•				•						
APP	Amyloid precursor protein, APP neo, APP ΔC31	31				•									•		
Angiotensin		15			•		•								•		
Annexin V		15			•	•								•			
BAFF	BLyS, TALL-1, THANK, zTNF4, TNFSF 13B/20, CD257	23					•						•				
Bax	BCL2L4, BCL2-associated X protein	16				•											
Bcl-2		16				•											
Bradykinin		15			•		•								•		
Cadherin		17					•										
Protein carbonyl		32														•	
β-Catenin	CTNNB, Cadherin-associated protein	17					•										
CD14		23					•						•				
CD40	TNFSF5	23					•						•				
CD40L	CD154, TNFSF5	23					•						•				
CD44		23					•						•				
Chemerin	Tazarotene induced gene 2, TIG2, Retinoic acid receptor responder 2, RAR-responsive protein, RARRES2	29		•			•							•			
CINC-1/GRO	Groα, CXCL1, rat IL-8	23					•						•				
24(S)-Hydroxycholesterol	24(S)-OHC	31													•		
Clusterin	CLI, Apolipoprotein J, TRPM-2, CLU, SGP-2, APO-J	16		•		•	•						•	•			
Complement C3a des Arg		23					•						•				
Complement C4a des Arg		23					•						•				
Corticosterone		20									•						
Cortisol		20									•						
COX-2	Cyclooxygenase-2	23					•						•				
Crystallin, αβ	HSP25	34															•
cyclic AMP	cAMP	19		•	•	•	•	•					•	•	•	•	•
cyclic GMP	cGMP	19		•	•		•	•							•		
Cystatin		31			•										•		
Cytochrome c		32				•										•	
5-Hydroxymethylcytosine	5-hmC	21		•								•					
5-Methylcytosine	5-mC	21		•								•					
DHEA	Dehydroepiandrosterone	20									•						
DKK-1	Dickkopf-1	17		•			•										
PMN-Elastase	Polymorphonuclear elastase	23											•				
ET-1	Endothelin-1, Big ET-1	15			•		•				•						
Erk	Erk1, Erk2, MAPK	17				•	•										
17β-Estradiol	Estrogen, Oestradiol	20									•						
Estriol	Oestriol	20									•						
FABP4	AFABP, Fatty acid-binding protein 4, Adipocyte lipid-binding protein, ALBP	29												•			
FasL	APO-1L, CD95L, CD178, TNFSF 6	23					•						•				

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Fibrinogen		15			•		•										
Gastrin		29									•			•			
Grp75	Glucose-regulated protein	34														•	•
Grp78	BiP, Glucose-regulated protein, binding immunoglobulin protein	34															•
Grp94	Glucose-regulated protein	34														•	•
GSK-3β	Glycogen synthase kinase	17				•	•										
haptoglobin	Hp	15			•								•	•		•	•
HO-1	Heme Oxygenase-1	32														•	•
LVV Hemorphin 7	LVVPWTQRF peptide	31					•							•	•		
Hepsin	TMPRSS1	14		•													
HETE	12(S)-hydroperoxy tetraenoic eicosatetraenoic acid	27					•			•	•		•	•		•	
sHLA-G	Soluble human leukocyte antigen-G	23											•				
HODE	13-hydroxyoctadecadienoic acid	27					•			•	•		•	•		•	
HSF1	Heat Shock transcription Factor 1	34															•
HSP25	Heat shock protein 25, α-crystallin	34															•
HSP27	Heat shock protein 27	34															•
HSP60	heat shock protein 60	34															•
HSP70	heat shock protein 70, HSP72	34		•													•
HSP70B'	heat shock protein 70B'	34		•													•
HSP90α	heat shock protein 90α	34		•													•
IFN-γ	Interferon-γ	25			•				•		•		•				
IGF-1	Insulin-like growth factor 1	17			•		•						•	•	•		
IgG	Immunoglobulin G	23											•				
IgM	Immunoglobulin M	23											•				
IL-1β	Interleukin-1β	25			•				•		•		•				
IL-10	Interleukin-10	25			•				•		•		•				
IL-12p70	Interleukin-12p70	25			•				•		•		•				
IL-13	Interleukin-13	25			•				•		•		•				
IL-17A	Interleukin-17A, CTLA-8, Cytotoxic T-lymphocyte-associated antigen 8	25			•				•		•		•				
IL-2	Interleukin-2	25			•				•		•		•				
IL-33	Interleukin-33, NF-HEV	25			•				•		•		•				
IL-4	Interleukin-4	25			•				•		•		•				
IL-6	Interleukin-6	25			•				•		•		•				
IL-8	Interleukin-8	25			•				•		•		•				
Jnk	SAPK, JNK 1, JNK 2	17		•		•	•										
Kallikrein	KLK6, Neurosin, Protease M	14		•													
KIM-1	Kidney injury molecule-1, T-cell immunoglobulin and mucin domain-containing protein 1, TIMD-1, TIM-1, HAVCR1, Hepatitis A virus cellular receptor 1	29					•						•	•			
LBP	Lipopolysaccharide binding protein	23											•				
Leptin	OB gene product	29									•			•			
LTB4	Leukotriene B4	27							•		•		•				
Cysteinyl leukotriene	LTC4, LTD4, LTE4	27								•	•		•				
Matriptase	TADG-15, ST14	14		•													
MBL	Mannan-binding lectin	23											•				

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MCP-1	Monocyte chemoattractant protein 1	25					•						•				
MEK1	MAP2K1, MKK1, MAPKK1, PRKMK	17				•	•										
Microcystin		14		•													
Myeloperoxidase	MPO	32			•											•	
Methylcytosine		21										•					
Nampt	Visfatin, Nicotinamide Phosphoribosyltransferase, PBEF1 Pre-B-Cell Colony Enhancing Factor 1	29					•						•	•			
NBR1	Neighbor of BRCA1 gene 1	16		•		•											
Netrin-4	Hepar-derived Netrin-like protein	15			•	•	•										
NF-kappaB	NFkappaB p65 EIA Kit	23					•						•				
NGAL	Lipocalin 2, Neutrophil gelatinase-associated lipocalin	29		•	•		•							•			
Omentin-1	Intelectin-1, Intestinal Lactoferrin receptor, Galactofuranose-binding lectin, Endothelial lectin HL-1	29				•	•							•			
Osteopontin	OPN, SPP1, Secreted phosphoprotein 1, Bone sialoprotein 1	17		•			•										
Osteoprotegerin	OPG, TNFRSF 11B, Osteoclastogenesis Inhibitory Factor, OCIF	25					•		•		•		•				
Oxytocin	OT	20									•						
p21	Cip1	14		•			•										
p27-Kip1		17					•										
p38	SAPK2, SAP kinase 2	17		•			•										
p53		14		•		•	•										
p53/MDM2	Mouse double minute 2 homolog, E3 ubiquitin-protein ligase Mdm2	14		•		•	•										
p62	sequestosome 1	16		•		•											
PDI	Protein disulfide-isomerase	32														•	•
PEGylated protein	PEG, Polyethylene Glycol	13	•														
Pin1	Peptidyl-prolyl cis-trans isomerase, PPlase, Rotamase	14		•			•								•		
Plasminogen		15			•		•										
Progesterone		20									•						
Progranulin	Proepithelin, PEPI, PC Cell-derived Growth Factor	23					•						•		•		
Prostacyclin	PGI_2, Prostaglandin I_2	27							•		•		•				
PGE_1	Prostaglandin E_1	27								•	•		•				
PGE_2	Prostaglandin E_2	27		•	•					•	•		•				
6-keto-$PGF_{1\alpha}$	Prostaglandin $F_{1\alpha}$	27								•	•		•				
$PGF_{2\alpha}$	Prostaglandin $F_{2\alpha}$	27								•	•		•				
15-deoxy-Δ12,14-PGJ_2	15-deoxy-delta-12,14-Prostaglandin J_2	27								•	•		•				
Proteasome		34															•
Protein A		13	•														
SLPI	Secretory leukocyte proteinase inhibitor, ALP Antileukoproteinase	14		•													
PTX3	Pentraxin 3, TSG14, TNF stimulated Gene-14	23					•			•	•		•				
sRAGE	Soluble RAGE, Receptor for advanced glycosylation end product, AGER, Advanced glycation end product-specific receptor	29					•							•			
RANKL	ODF, OPGL, TRANCE, TNFSF 11, CD254	23					•						•				
SDMA	NG, N'G-Dimethyl-L-arginine	32														•	
Serotonin	5HT, 5-hydroxytryptamine	20					•				•						
SMN	Survival Motor Neuron	31					•								•		
SOD	Superoxide dismutase	32														•	

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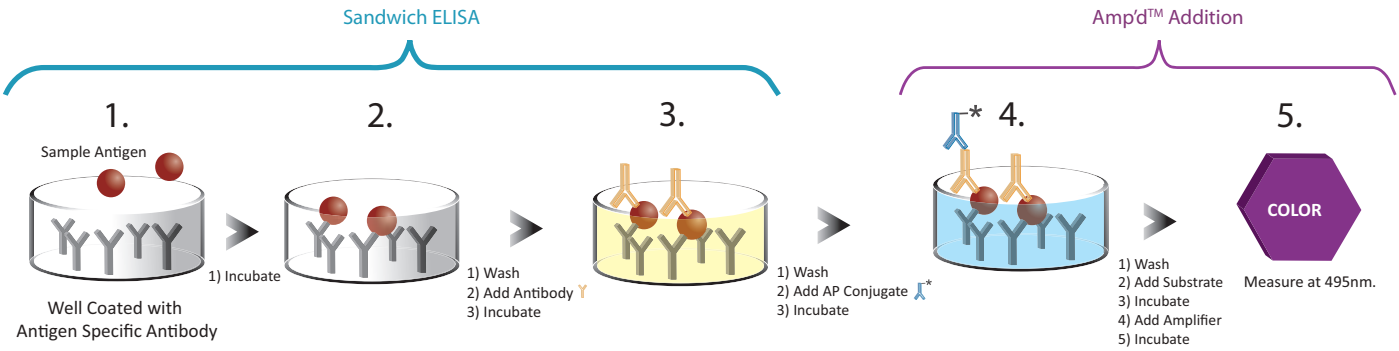
Substance P		31					•				•				•		
Survivin	TIAP	14		•			•							•			
Testosterone		20					•				•						
TGF-β1	Transforming growth factor β1	25					•		•		•		•				
11-dehydro-TXB2	11-dehydro-Thromboxane B2	27			•					•	•		•				
TL1A	TNFSF 15, VEGI	25					•		•		•		•				
TNF-α	Tumor necrosis factor-α, TNFSF 2	25			•		•		•		•		•				
TNF-R1	Tumor necrosis factor Receptor 1, TNFRSF 1A	25					•						•				
Trefoil factor	TFF1, pS2 protein, Breast cancer estrogen-inducible protein, PNR-2, Polypeptide P1.A, BCEI, HP1.A	23		•									•				
Troponin I		15			•		•										
Arg^8-Vasopressin	AVP	20			•		•				•						
Vaspin	Visceral Adipose Tissue-derived Serine Protease Inhibitor, Serpin A12, OL-64	29					•							•			
VEGF	Vascular endothelial growth factor	15		•	•		•										
sVEGFR	soluble Vascular Endothelial Growth Factor Receptor 1	17		•	•		•										
25(OH) Vitamin D	25-Hydroxyvitamin D, Vitamin D	29		•							•			•			
XIAP	X-linked inhibitor of apoptosis	16				•								•			

ELISAs based on Amp'd™ Technology

Increase ELISA Sensitivity with the Signal Amplification Amp'd™ Technology
The Amp'd™ ELISA Signal Amplification system is designed to replace traditional alkaline phosphatase (AP) substrates, such as pNPP (p-Nitrophenyl phosphate), with a combination substrate and amplifier system that results in greater sensitivity when compared to a traditional substrate ELISA.

In a conventional detection system, enzyme bound to the microtiter plate interacts directly with the substrate producing a color change where the resulting absorbance is directly proportional to the amount of captured analyte. In the Amp'd ELISA system, bound AP converts a substrate that is utilized in a second enzyme reaction system which is initiated by addition of the amplifier reagent. It is this amplification step that allows for greater (amplified) color production at lower analyte concentrations resulting in an increase in assay sensitivity.

In the Amp'd ELISA system, the critical substrate component, NADPH, is added to wells containing AP and the AP reduces to NADH via release of a phosphate group. This reaction is allowed to proceed for an amount of time with the accumulated NADH being proportional to the amount of analyte/bound AP-conjugate. Upon the addition of the reconstituted amplifier reagent, this first reaction is quenched and the NADH feeds a second redox enzyme system. Here diaphorase utilizes NADH to reduce the iodonitrotetrazolium salt into formazan (purple color) producing NAD+. A counter enzymatic reaction then occurs where the NAD+ is reduced to NADH while ethanol is oxidized to acetaldehyde via alcohol dehydrogenase. This set of enzymatic reactions is also allowed to proceed for a period of time, recycling the NADH thus amplifying the original AP/substrate reaction. The resulting color intensity is ultimately proportional to the amount of bound analyte.

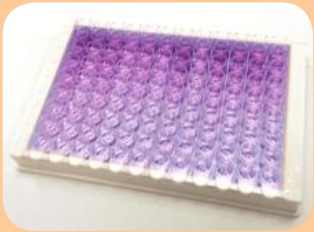


Amp'd™ ELISA Signal Amplification Kit

Increase ELISA Sensitivity with the Signal Amplification Amp'd™ Technology
The Amp'd™ ELISA Signal Amplification kit provides up to 50-fold increase in sensitivity over traditional ELISAs while detecting lower concentrations of target in samples.

- Quantify difficult-to-detect analytes
- Easy-to-use, simple procedure for sandwich format ELISAs
- Convenient one or five 96-well plate formats for high throughput analysis

Detect up to 50-fold Increase in Sensitivity



A resulting purple color intensity is measured in the Amp'd™ ELISA Signal Amplification kit (Prod. # ENZ-KIT-100) that is proportional to the amount of bound analyte in your sample.

PRODUCT LISTING

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
Amp'd™ ELISA Signal Amplification Kit	ENZ-KIT-100-0001 ENZ-KIT-100-0005	1x96 wells 5x96 wells	Improves ELISA sensitivity ~10 to 50-fold.	ELISA Kit dependent	ELISA Kit dependent	~30 minutes (replacement time)
Amp'd™ HSP70 High Sensitivity ELISA Kit	ENZ-KIT-101-0001	1x96 wells	7pg/ml (range 39-500pg/ml)	H, M, R	P, S	4.5 hours

Amp'd™ HSP70 High Sensitivity ELISA Kit

HSP70 functions in folding of newly synthesized proteins, re-folding of misfolded or denatured proteins, trafficking of proteins across cellular membranes, inhibiting protein aggregation, and coordinating proteins for degration via the proteasomal pathway. Enzo's Amp'd™ HSP70 high sensitivity ELISA kit enables the ability to use less sample and detect both baseline and upregulated levels of human, mouse and rat Hsp70 (Hsp72).

Exposure of cells to oxidative and environmental stresses frequently results in the breakdown or oxidation of genomic DNA. Assays to evaluate the integrity of genomic DNA, or to assess the presence of oxidized DNA are frequently used as a means of verifying the onset of apoptosis or DNA damage.

- Detect as little as 7pg/ml of Hsp70 (Hsp72) in <4.5 hours
- Quantify both baseline and upregulated levels of Hsp70 in serum and plasma
- Negligible reactivity from similar Hsp70 family members

Reliable Quantification, Even for Baseline Detection

Reliable Quantitation Even For Baseline Detection

	Hsp70 (Hsp72) Levels (pg/ml)			
Product	Sensitivity	Range	Baseline	Upregulated
Amp'd™ HSP70 Kit	7	39-500	✓	✓
Competitor A Kit	200	780-50,000	X	✓
Competitor R Kit	156	156-10,000	X	✓
Competitor S Kit	20	550-35,000	X	✓
Competitor U Kit	90	200-12,500	X	✓

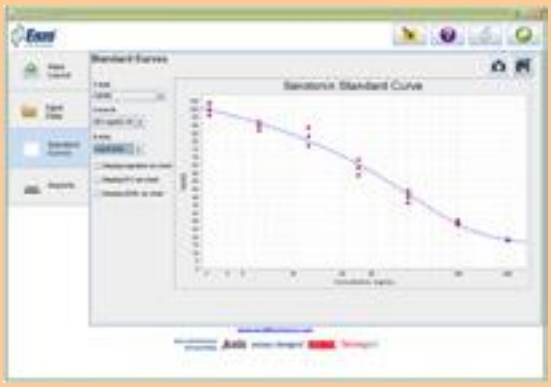
The sensitivity and range of Hsp70 (Hsp72) levels of the Amp'd™ HSP70 high sensitivity ELISA kit (Prod. # ENZ-KIT-101) was compared to 4 other similar ELISAs. Results indicate that only the Amp'd™ HSP70 ELISA kit was able to detect baseline Hsp70 (Hsp72) levels.

Assay Blaster! Data Analysis Software

Assay Blaster! Data Analysis Software offers a simple and cost-effective solution for analyzing your assay results. Analyze mean signal, net signal, or %B/Bo results and extrapolate concentration values of unknown samples using point-to-point, 4PL, or 5PL curve fit methods. The intuitive user interface makes getting started easy!

- Simplified data analysis with adjustable parameters and settings to your needs
- Optionally use duplicate or triplicate data series and remove outliers
- Multiple curve fit options, including point-to-point, 4PL, and 5PL
- Fully configurable custom report generation

Easily Analyze Any ELISA Results



Screenshots of the easy-to-use interface of the Assay Blaster! Data Analysis Software (Prod. # ADI-28-0002).

BIOPROCESS OPTIMIZATION

Development of a single drug, whether it is a new chemical entity, biotherapeutic, or genetic/cellular therapy, requires significant investment of resources. Each step of the process from early discovery through production and delivery must be fully explored, characterized, and understood to prevent issues resulting from cell stress, cell death, protein aggregation, and factors affecting reliable manufacturing of the drug. Whether you work in drug discovery, upstream, or downstream bioprocessing, Enzo offers a range of products to help you maintain cell line viability, optimize and monitor product integrity, and maximize yield. Our ELISAs for protein optimization and contamination monitoring are easy-to-run, quantitative assays, compatible for both manual and automated workflows.

PEGylated Protein ELISA Kit

The sensitive PEGylated Protein ELISA kit is ideal for drug development and pharmaceutical manufacturing applications including drug formulations, pharmacokinetics analysis, drug comparison, lead candidate identification, lot release criteria and in-process QC studies.

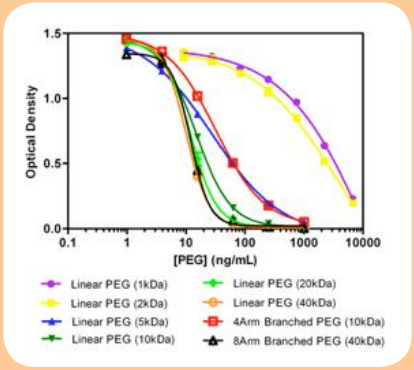
- Validated for a wide range of molecular weight linear and branched PEGs, both in free form and when conjugated to proteins
- Sensitive assay measures < 1ng/ml of PEGylated molecules
- Quantifies PEGylated target molecules in complex matrices to allow monitoring of drug levels or its accumulation in tissue

Protein A ELISA Kit

The Protein A ELISA kit is a sensitive and reproducible sandwich assay to quantify Protein A residuals in monoclonal antibody preparations. This extensively validated ELISA kit enables efficient detection of natural and recombinant Protein A constructs with up to 100% recovery.

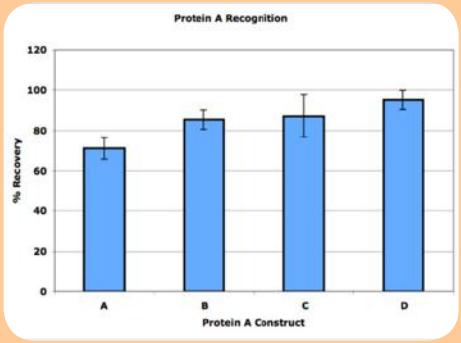
- Detects 1ppm of Protein A residuals in human IgG
- Useful for contamination analysis and measurement of Protein A variants in monoclonal antibody preparations
- Produces results in < 3 hours with low cost per test

Quantify a Variety of PEGylated Molecule Constructs



Standard curves using the PEGylated Protein ELISA kit (Prod no. ADI-900-213) were generated to detect a variety of linear and branched PEGs.

Recognize All Commonly Used Protein A Constructs



Assay recognition of different Protein A constructs using the Protein A ELISA kit (Prod. # ADI-900-057). A: Natural Protein A from S. aureus (Millipore), B: Recombinant Protein A from E. coli (Repligen), C: Recombinant Cys-Protein A from E. coli (GE), and D: Recombinant alkaline-resistant Protein A variant from E. coli (MabSelet SuRe from GE).

BIOPROCESS ELISAS

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
Protein A ELISA	ADI-900-057	1x96w	9.01pg/ml (range 15.63 - 1000pg/ml)	Species independent	Protein A purified IgG preparations	<3 hours
PEGylated Protein ELISA	ADI-900-213-0001	1x96w	<1ng/ml (range 1.75-225ng/ml)	Species independent	P, S, T, other biological samples	2 hours

LEGEND
Species: H = human, M = mouse, R= rat, B= bovine, C = canine (dog), P = porcine (pig), RB = rabbit
Sample Types: AM = amniotic fluid, CL = cell lysates, CSF = cerebral spinal fluid, CS = culture supernatants, F = feces, M = milk, NL = nasal lavage, P = plasma, SA = saliva, SS= sputum supernatant, T = tissue, TC = tissue culture, U = urine, WhB = white blood cells, Product tables includes both certified and cited species and sample types.

CANCER RESEARCH

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 yours. 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 proteostasis 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. We are continually focused on enabling a future with more hope, more collaboration, more discovery, and less disease. Choose one of our sensitive ELISA to detect a variety of relevant biomarkers.

Analyze Novel Serine Protease Cancer Biomarkers

	Serine Protease Expression in Cancer															
Serine Protease	Breast	Cervical	Colon	Endothelia	Endometrial	Gastric	Gastrointestinal	Leukemia	Lung	Renal	Oral	Ovarian	Nasopharyngeal	Pancreatic	Prostate	Salivary gland	Skin
Hepsin	↑	√			↑				√	↑		↑			↑		
KLK6												√			√		
KLK7	↑↓	↑	↑								↑	↑		√	↓		
KLK8	√	↑			↑				↑↓		↑	↑				↑	
Matriptase	↑↓	↑	↑↓	↑	↑	↑	↓	↑	↓	↑		↑↓		↑	↑		↑
SLPI	√	↓	√			↑			↑			↑↓	↓		↓		
TMPRSS3	√								√			↑		↑	√		

Serine Protease ELISAs for early stage cancer detection. Checks (√) indicate expression, while arrows (↑↓) indicate increase or decrease in the level of expression in the different cancer types.

Serine Protease Cancer Biomarkers

Serine proteases are enzymes that mediate a variety of events relevant to fundamental processes of tumor invasion and metastasis. In ovarian cancer, they allow growth and spread of the cancer; they are produced early in tumor formation and can be detected early; and when inhibited, they may possibly stop ovarian tumor formation. They do this by (1) breaking down extracellular components surrounding ovaries; (2) allowing tumor cells to rapidly divide; and (3) then the tumor cells can break off and travel to different locations to spread cancer. Enzo Life Sciences offers a complete portfolio of over 40 unique cancer biomarker products including ELISAs, monoclonal antibodies and recombinant proteins. The serine protein ELISAs are rapid assays enabling the measurement of pivotal biomarkers of ovarian, breast, cervical, prostate and other cancers without the need for expensive equipment or non-quantitative procedures.

- Easy-to-use, rapid ELISA kits with results in ~3 hours
- Nanogram level detection of unique serine proteases cancer biomarker
- Fully quantitative results surpass semi-quantitative Western blot analysis

Rapid, Sensitive ELISA for Matriptase Detection

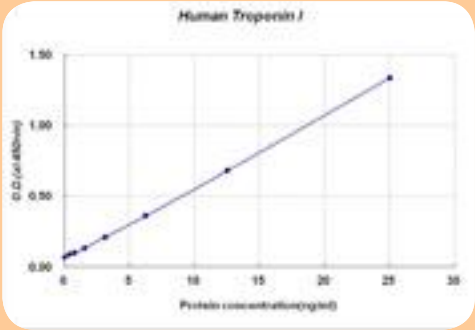
Standard curve experiment using the Matripase ELISA kit (Prod. # ADI-900-221).

SELECT ELISAS FOR CANCER RESEARCH						
Product Name	**Product #**	**Size**	**Sensitivity (Range)**	**Species**	**Sample Types**	**Assay Time**
Hepsin (human), ELISA Kit	ADI-900-220-0001	1x96w	0.2U/ml (16 - 256U/ml)	H	P, S	~3 hours
ImmunoSet™ p53/MDM2 complex ELISA development set	ADI-960-070	5x96w	0.35ng/ml p53 (0.78 - 50ng/ml p53)	H, M, R	CL	Plate coating - Overnight + 1 hour; Assay - 3 hours
Kallikrein-6 (human), ELISA Kit	ADI-900-217-0001	1x96w	1ng/ml (5 - 280ng/ml)	H	S	~3 hours
Kallikrein-7 (human), ELISA Kit	ADI-900-218-0001	1x96w	0.5ng/ml (35 -560ng/ml)	H	S	~3 hours
Kallikrein-8 (human), ELISA Kit	ADI-900-219-0001	1x96w	0.1ng/ml (35 -560ng/ml)	H	S	~3 hours
Matriptase (human), ELISA Kit	ADI-900-221-0001	1x96w	1ng/ml (5-280ng/ml)	H	P, S	~3 hours
Microcystins (Adda specific) ELISA Kit	ALX-850-319-KI01	1x96w	0.1ng/ml (0.15 - 5ng/ml)	NA	Not applicable	1 hour 90 mins
p21 (human), ELISA Kit	ADI-900-161	1x96w	8.0pg/ml (15.6 - 1000pg/ml)	H	CL	3 hours
p53 (human) ELISA Kit	ALX-850-057-KI01	1x96w	0.5U/ml	H	CS, P, S	3 hours
Pin1 ELISA Kit	ADI-900-146	1x96w	15.5pg/ml (62.5 - 2000pg/ml)	H, M	CL	3 hours
SLPI (human), ELISA Kit	ADI-900-222-0001	1x96w	1ng/ml (10-160ng/ml)	H	S	2.5 hours
Survivin (human), ELISA Kit	ADI-900-111	1x96w	4pg/ml (31.25 - 1000pg/ml)	H	CL, CS, P, S, U	3 hours

CARDIOVASCULAR RESEARCH

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.

Most Sensitive ELISA for Detection of Troponin I



Standard curve experiment using the Troponin I ELISA Kit (Prod. # ADI-900-228).

Troponin I (human) ELISA Kit

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 0.38ng/ml of human troponin
- Flexible sample types, including: cell lysates, plasma, and serum
- Simple protocol with results in just 3.5 hours

SELECT ELISAS FOR CARDIOVASCULAR RESEARCH

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
Angiotensin A ELISA Kit	ADI-900-207	1x96w	8.3pg/ml (9.8-10,000pg/ml)	species independent	P, S	3 hours
Angiotensin I ELISA Kit	ADI-900-203	1x96w	4.3pg/ml (3.9-10,000pg/ml)	species independent	P, S	3.5 hours
Angiotensin II ELISA Kit	ADI-900-204	1x96w	4.6pg/ml (3.9-10,000pg/ml)	species independent	P, S	3.5 hours
Annexin V (human) ELISA Kit	ALX-850-049-KI01	1x96w	0.33ng/ml (0.8-50ng/ml)	H	CS, S	3.5 hours
anti-Annexin V (human) ELISA Kit	ALX-850-040-KI01	1x96w	1.18ng/ml (6.25-400ng/ml)	H	CS, S	4 hours
Bradykinin ELISA Kit	ADI-900-206	1x96w	24.8pg/ml (11.7-30,000pg/ml)	species independent	P, S, U	3 hours
Endothelin-1 ELISA Kit	ADI-900-020A	1x96w	0.40pg/ml (0.78-100pg/ml)	H, M, R, B, C, P, RB	CL, CS, P, S, T	2 hours
Big Endothelin-1 (human), ELISA Kit	ADI-900-022	1x96w	0.23pg/ml (0.78-100pg/ml)	H, RB	CS, Lung Lavage Fluid, S	Overnight + 1 hour
Big Endothelin-1 (rat), ELISA Kit	ADI-900-073	1x96w	0.72pg/ml (0.78-100pg/ml)	R	CS, P, S	Overnight + 1 hour
Fibrinogen (human) ELISA Kit	ADI-900-230-0001	1x96w	<7.63ng/ml (15.6-1000ng/ml)	H	CL, P, S	~3.5 hours
Haptoglobin (human) ELISA Kit	ADI-900-229-0001	1x96w	<0.78ng/ml (0.78-50ng/ml)	H	CL, P, S	~3.5 hours
Netrin-4 (human), detection set	APO-54N-033-KI01	5x96w	50pg/ml (0-5ng/ml)	H	CS, P, S	4 hours
Plasminogen (human) ELISA Kit	ADI-900-231-0001	1x96w	<2.01ng/ml (1-64ng/ml)	H	CL, P, S	~3.5 hours
Troponin I (human) ELISA Kit	ADI-900-228-0001	1x96w	<0.38ng/ml (0.38-25ng/ml)	H	CL, P, S	~3.5 hours
VEGF (human), ELISA Kit	ADI-900-080	1x96w	14.04pg/ml (15.6-1000pg/ml)	H	CS, S	Overnight + 1 hour
VEGF-C (human) ELISA Kit	ALX-850-306-KI01	1x96w	0.057ng/ml (0.23-15ng/ml)	H	CS, S	4.5 hours

LEGEND
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CELL DEATH RESEARCH

Different types of cell death are often defined by morphological criteria, without a clear reference to precise biochemical mechanisms. Apoptosis (or programmed cell death) is the most-well characterized, being recognized as a critical regulator of development, immunity, as well as organ and tissue homeostasis. Apoptotic cells die in a controlled fashion in response to a variety of extrinsic or intrinsic signals (e.g., activation of TNF receptors, DNA damage, mitochondrial pathways).

Cells can also die due to necrosis which does not follow the apoptotic signal transduction pathway, but rather various receptors are activated that result in the loss of cell membrane integrity and an uncontrolled release of products of cell death into the intracellular space.

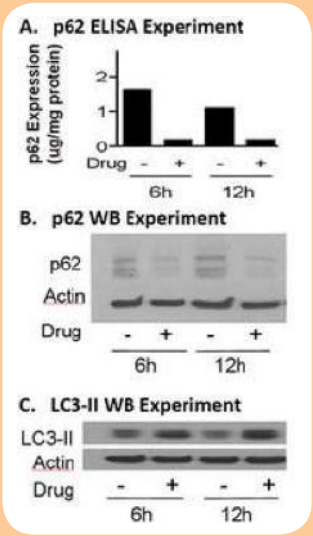
Autophagy (or autophagocytosis) is another common cell death pathway which involves cell degradation of unnecessary or dysfunctional cellular components through the actions of lysosomes. Autophagic activity is critical to the maintenance of cellular homeostasis and energy balance. Although typically low under basal conditions, autophagy can be markedly upregulated by a variety of physiological stimuli such as nutrient starvation, hypoxia, endoplasmic reticulum stress, as well as immune and hormonal stimulation. With our innovative assays and reagents, Enzo enables scientists to gain a deeper understanding of the benefits, and potential consequences, of altering autophagic activity.

NBR1 and p62 ELISA Kits

Sensitive NBR1 and p62 ELISA kits allow for quantitative, immunometric detection of the autophagy biomarkers NBR1 and p62 (Sequestosome 1) in human, rat and mouse cell lysates. NBR1 and p62 function as scaffold proteins, aiding in autophagy protein trafficking and degradation. ELISA kits enable quantitative measurement of autophagy without the need for expensive equipment or long procedures.

- Sensitive assays measure as little as 66 and 100pg/ml of NBR1 and p62, respectively
- High throughput format allows analysis of up to 40 samples in duplicate in <3 hours
- Easy-to-follow protocols and liquid color-coded reagents save time and reduce errors

p62 ELISA Measures Induction of Macroautophagy



Human breast cancer cells were treated with either autophagy-inducing drug or vehicle. Cells were harvested 6 and 12 hours post-treatment, lysed, and analyzed with the p62 ELISA Kit (Prod no. ADI-900-212), and for p62 and LC3- II by Western blot. Drug treatment correlated with the induction of autophagy as indicated by the decrease in p62 levels (A and B) and by elevation of LC3-II levels (C).

SELECT ELISAS FOR CELL DEATH RESEARCH						
Product Name	**Product #**	**Size**	**Sensitivity (Range)**	**Species**	**Sample Types**	**Assay Time**
[pSer$^{473/474}$]Akt1/2 ELISA Kit	ADI-900-162	1x96w	5.5pg/ml (17.5-560pg/ml)	H, M, R	CL	3 hours
ApoStrand™ ELISA Apoptosis Detection Kit	BML-AK120-0001	1x96w	Not applicable	N/A	N/A	<4 hours
Bax (human), ELISA Kit	ADI-900-138	1x96w	10.1pg/ml (62.5-2000pg/ml)	H	CL	3 hours
Bcl-2 (human), ELISA Kit	ADI-900-133	1x96w	3.8pg/ml (18.8-1200pg/ml)	H	CL	3 hours
Clusterin (human), ELISA Kit	ALX-850-380-KI01	1x96w	0.5ng/ml (5-160ng/ml)	H	CL, CS, CSF, P, S, U	<3.5 hours
NBR1 ELISA Kit	ADI-900-211-0001	1x96w	65.57pg/ml (125-8000pg/ml)	H, M, R	CL	2 hours
p62 ELISA Kit	ADI-900-212-0001	1x96w	100pg/ml (625-40,000pg/ml)	H, M, R	CL, PBMC lysates	3 hours
XIAP (human), ELISA Kit	ADI-900-124	1x96w	90.6pg/ml (312.5-10,000pg/ml)	H	CL	3 hours

With over 2000 products for the analysis of cell death, Enzo enables detection of phenotypic hallmarks of apoptotic, necrosis and autophagy cell death types.

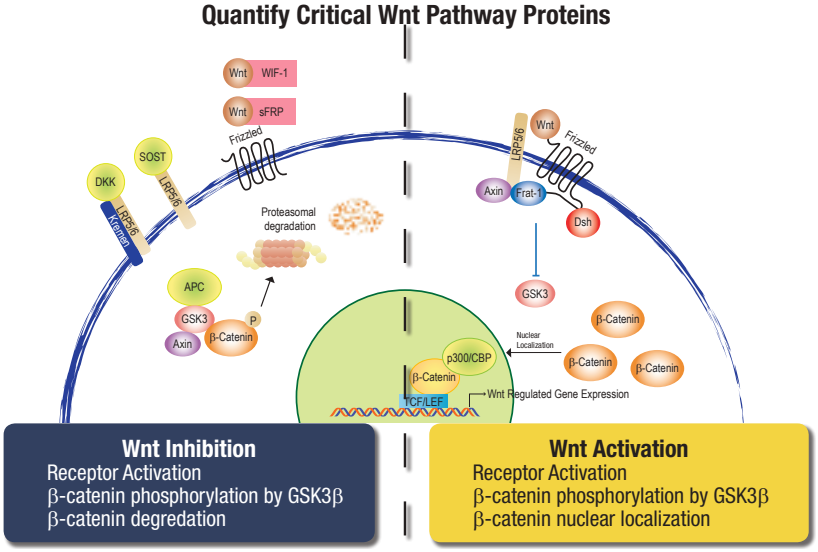
Cell signaling encompasses a complex network of highly coordinated communication pathways from ligands down to the effector molecule. From receptor- or ion channel-mediated transmission of signals across the cell membrane, to amplification through second messenger systems, kinase or proteolytic cascades or other post-translational modifications, Enzo Life Sciences offers an unrivaled catalog of cutting-edge tools for signal transduction research. From receptor to effector a portfolio of assays, recombinant enzymes and substrates, small molecule reagents and antibodies is available to facilitate thorough characterization of your pathway of interest.

Sensitive Wnt Pathway ELISA Kits

Obtain fully quantitative data with immunometric detection of β-Catenin, total and phosphorylated GSK-3β, and DKK-1 in human, mouse and rat samples.

- Sensitive assays measure picogram levels compared to microgram levels in Western blot
- Suitable for cell lysates, culture supernates, plasma, or serum sample types
- High throughput format allows analysis of 40 samples in duplicate in <3 hours

Quantify Critical Wnt Pathway Proteins



SELECT ELISAS FOR CELL SIGNALING RESEARCH

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
VE-cadherin, Soluble ELISA Kit	ALX-850-059-KI01	1x96w	0.15ng/ml (0.16 to 10ng/ml)	H	CS, S	3.25 hours
β-Catenin ELISA Kit	ADI-900-135	1x96w	26.8pg/ml (125-8000pg/ml)	H, M, R	CL	3 hours
Dkk-1 (human), ELISA Kit	ADI-900-151	1x96w	0.98pg/ml (7.81-500pg/ml)	H	CS, P, S	3 hours
Dkk-1 (mouse), ELISA Kit	ADI-900-172	1x96w	116.7pg/ml (125-4000pg/ml)	M	CS, P, S	3 hours
Dkk-1 (rat), ELISA Kit	ADI-900-171	1x96w	26.1pg/ml (39.1-1250pg/ml)	R	CS, P, S	3 hours
[pThr^{202}/Tyr^{204}]Erk1/2 ELISA Kit	ADI-900-098A-0001	1x96w	2.67pg/ml (62.5-2000pg/ml)	H, M, R	CL	3 hours
GSK-3β ELISA Kit	ADI-900-144	1x96w	74.4pg/ml (78.1-5000pg/ml)	H, R	CL	3 hours
[pSer^{9}]GSK-3β ELISA Kit	ADI-900-123A	1x96w	9.0pg/ml (62.5-2000pg/ml)	H, M, R	CL	3 hours
IGF-1 (human), ELISA Kit	ADI-900-150	1x96w	48.5pg/ml (187-6000pg/ml)	H	P, S	4 hours
[pThr^{183}/Tyr^{185}]Jnk1/2 ELISA Kit	ADI-900-106	1x96w	75.8pg/ml (125-4000pg/ml)	H, M, R	CL	3 hours
MEK1 ELISA Kit	ADI-900-122A	1x96w	139.0pg/ml (312.5-10,000pg/ml)	H, R	CL	3 hours
[pSer^{218}/Ser^{222}]MEK1 ELISA Kit	ADI-900-119	1x96w	85.2pg/ml (187.5-6000pg/ml)	H, M, R	CL	3 hours
Osteopontin (human), ELISA Kit	ADI-900-142	1x96w	0.110ng/ml (2-32ng/ml)	H	CS, M, P, S, U	3 hours
Osteopontin (rodent), ELISA Kit	ADI-900-090A	1x96w	3.03ng/ml (3.13-100ng/ml)	M, R	CS, P, U	3 hours
ImmunoSet™ Osteopontin (human), ELISA development set	ADI-960-142	10x96w	0.016ng/ml (0.03-1ng/ml)	H	CS, M, P	Plate coating - Overnight + 1 hour; Assay 3 hours
p27-Kip1 (human), ELISA Kit	ADI-900-139	1x96w	10.1pg/ml (25-1600pg/ml)	H	CL	3 hours
[pThr^{180}/Tyr^{182}]p38 ELISA Kit	ADI-900-101	1x96w	52.1pg/ml (156-5000pg/ml)	H, M	CL	3 hours
sVEGFR-1 (human) ELISA Kit	ALX-850-264-KI01	1x96w	0.06ng/ml (0.16-10ng/ml)	H	CS, S	3.5 hours
VE-cadherin, Soluble ELISA Kit	ALX-850-059-KI01	1x96w	0.15ng/ml (0.16-10ng/ml)	H	CS, S	3.25 hours

LEGEND
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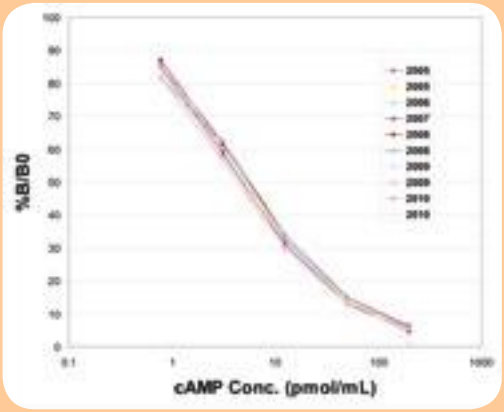
CYCLIC NUCLEOTIDE ELISAS

The second messengers adenosine 3', 5'-cyclic monophosphate (cyclic AMP; cAMP) and guanosine 3', 5'-cyclic monophosphate (cyclic GMP; cGMP) are important intracellular regulators downstream from GPCRs.

cAMP is also involved in regulating neuronal, glandular, cardiovascular, immune and other functions. A number of hormones are known to activate cAMP through the action of the enzyme adenylate cyclase which converts ATP to cAMP. The diversity of receptors known to impact cAMP-mediated signaling includes those known to affect cardiovascular and nervous systems, immune mechanisms, cell growth, differentiation, and general metabolism. Thus, there remains considerable interest in the measurement of intracellular cAMP concentrations in tissues and cell culture.

cGMP is typically present at levels 10- to 100-fold lower than cAMP in most tissues and is formed by the action of the enzyme guanylate cyclase on GTP. It is most well recognized as a key signaling trigger in the relaxation of smooth muscle cells (resulting in vasodilation) in response to nitric oxide, and as a sodium ion channel regulator (via its degradation by phosphodiesterases) critical to phototransduction. Vasodilators and hormones, such as acetylcholine, insulin and oxytocin, as well as serotonin and histamine, cause an increase in cGMP levels.

Reliable Results with Consistent Lot-to-Lot Performance



Lot-to-lot consistency: Graph demonstrates the robust and reproducible nature of the competitive cAMP ELISA Kit (Prod. # ADI-900-067) showing standard curves from 10 lots manufactured over 6 years.

In addition to measuring cAMP and cGMP, detection of downstream GPCR signaling events such as activation of Erk1/2, Akt, Src and Stat3 are routinely assayed using phospho-specific antibodies to distinguish phosphorylation of signaling proteins at specific activating or inactivating serine, threonine, and tyrosine residues. We offer the most sensitive and complete colorimetric ELISA kits for quantification of intracellular or extracellular cAMP or cGMP in a variety of sample types.

- Enhance sensitivity by 10-fold with optional acetylation protocol 10-fold
- Cited in peer-reviewed publications
- Simple, efficient and well-established sample handling protocols

Choose the Kit That Fits Your Needs

Our cAMP and cGMP ELISAs are available in multiple sizes (1x96 or 5x96 wells) and a variety of formats. The **complete** cAMP and cGMP ELISAs include all components necessary for quantifying both intra- and extracellular cAMP or cGMP in cell lysates, tissue extracts, culture supernatants, serum, saliva, or urine; the **direct** cAMP and cGMP ELISAs include components for quantifying intracellular cAMP or cGMP in cell lysates or tissue extracts; and the **standard** cAMP and cGMP ELISAs include components for quantifying extracellular cAMP or cGMP in culture supernatants, serum, or saliva.

		SAMPLE TYPES						
		Intracellular		Extracellular				
		Cell Lysates	Tissue Extracts	Culture Supernatants	Serum	Saliva	Urine	Plasma
KIT TYPE	Complete	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Direct	Yes	Yes					
	Standard			Yes	Yes	Yes	Yes	Yes

CYCLIC NUCLEOTIDE ELISAS						
Product Name	**Product #**	**Size**	**Sensitivity (Range)**	**Species**	**Sample Types**	**Assay Time**
cAMP complete ELISA Kit	ADI-900-163 ADI-901-163	1x96w 5x96w	Assay Buffer : 0.30pmol/ml (non-acetylated) 0.039pmol/ml (acetylated) HCl: 0.39pmol/ml (non-acetylated) 0.037pmol/ml (acetylated) (0.78-200pmol/ml (non-acetylated); 0.078-20pmol/ml (acetylated))	Species independent	CL, CS, S, SA, T	3 hours
Direct cAMP ELISA Kit	ADI-900-066 ADI-901-066	1x96w 5x96w	(non-acetylated) 0.39pmol/ml; (acetylated) 0.037pmol/ml ((non-acetylated) 0.78-200pmol/ml;(acetylated) 0.078-20pmol/ml)	Species independent	CL, CS, T, TC	3 hours
cAMP ELISA Kit	ADI-900-067 ADI-901-067	1x96w 5x96w	(non-acetylated) 0.30pmol/ml; (acetylated) 0.039pmol/ml ((non-acetylated) 0.78-200pmol/ml;(acetylated) 0.078-20pmol/ml)	Species independent	CL, CS, S, SA, T, U	3 hours
cGMP complete ELISA Kit	ADI-900-164 ADI-901-164	1x96w 5x96w	Assay Buffer : 0.42pmol/ml (non-acetylated) 0.043pmol/ml (acetylated) HCl: 0.604pmol/ml (non-acetylated) 0.059pmol/ml (acetylated) (0.8-500pmol/ml (non-acetylated); 0.08-50pmol/ml (acetylated))	Species independent	CL, CS, P, S, SA, T, U	3 hours
Direct cGMP ELISA Kit	ADI-900-014 ADI-901-014	1x96w 5x96w	(non-acetylated) 604 fmol/ml; (2 hour acetylated) 59 fmol/ml; (overnight acetylated) 25 fmol/ml ((non-acetylated) 0.8-500pmol/ml; (acetylated) 0.08-50pmol/ml)	Species independent	CL, CSF, Micro-dialysate, T	2 hours
cGMP ELISA Kit	ADI-900-013 ADI-901-013	1x96w 5x96w	(non-acetylated) 0.37pmol/ml; (acetylated) 0.088pmol/ml ((non-acetylated) 0.16-500pmol/ml; (acetylated) 0.16-100pmol/ml)	Species independent	CS, P, S, SA, U	3 hours

LEGEND
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ENDOCRINOLOGY/HORMONE RESEARCH

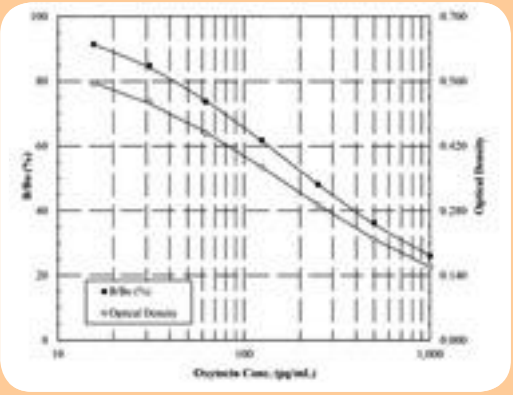
All multicellular organisms produce hormones, which are regulatory biochemicals part of the endocrine system and serve as a major form of communication between different organs and tissues. Hormones regulate a variety of physiological and behavioral activities, including digestion, metabolism, respiration, tissue function, sensory perception, sleep, excretion, lactation, stress, growth and development, movement, reproduction, and mood. Animal hormones are classified by their chemical types (e.g. peptide- or lipid-based). The peptide hormone family includes vasopressin, insulin, leutenizing hormone, follicle-stimulating hormones, and several others, while the lipid hormones family includes phospholipid-derived hormones from the arachidonic pathway (e.g. eicosanoids) and steroid hormones like testosterone and cortisol. Enzo Life Sciences provides a variety of high sensitivity ELISA kits for researchers looking at hormone-related research.

Oxytocin ELISA Kit

Regarded as the "love" hormone, Oxytocin is a key neuromodulator in the brain, with defined roles in social behavior including parental nurturing, social pair-bonding, trust, and management of stress experiences. It's also a key hormone during mammalian birthing and lactation. Join the many scientists worldwide who entrust their research to the Enzo Oxytocin ELISA kit.

- Detect as low as 15pg/ml of oxytocin in a variety of sample types
- Negligible detection of vasopressin, providing confidence in assay results
- Faster and less costly than LC/MS methods
- Widely published in peer reviewed literature

Most Sensitive Oxytocin ELISA Kit



Standard curve experiment using the Oxytocin ELISA Kit (Prod. # ADI-900-153A).

SELECT ELISAS FOR ENDOCRINOLOGY RESEARCH

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
Aldosterone ELISA Kit	ADI-900-173 ADI-901-173	1x96w 5x96w	4.7pg/ml (3.9-250pg/ml)	Species independent	P, S, U	Overnight + 1 hour
Corticosterone ELISA Kit	ADI-900-097 ADI-901-097	1x96w 5x96w	27.0pg/ml (32-20,000pg/ml)	Species independent	CL, CS, Feces, P, S, SA, U, WhB	3 hours
Cortisol ELISA Kit	ADI-900-071 ADI-901-071	1x96w 5x96w	56.72pg/ml (156-10,000pg/ml)	Species independent	CS, F, P, S, SA, U	3 hours
DHEA ELISA Kit	ADI-900-093 ADI-901-093	1x96w 5x96w	2.9pg/ml (12.21-50,000pg/ml)	Species independent	CS, P, S, SA, U	5 hours
17β-Estradiol ELISA Kit	ADI-900-008 ADI-901-008	1x96w 5x96w	28.5pg/ml (29.3-30,000pg/ml)	Species independent	CS, SA	<3 hours
17β-Estradiol high sensitivity ELISA Kit	ADI-900-174 ADI-901-174	1x96w 5x96w	14.0pg/ml (15.6-1000pg/ml)	Species independent	P, S	3 hours
Estriol ELISA Kit	ADI-900-100	1x96w	59.6pg/ml (122-500,000pg/ml)	Species independent	CS, P, S, SA, U	3 hours
Oxytocin ELISA Kit	ADI-900-153A-0001 ADI-901-153A-0001	1x96w 5x96w	15pg/ml (15.6-1000pg/ml)	Species independent	CS, CSF, M, P, S, SA, T, U	Overnight + 1 hour
Progesterone ELISA Kit	ADI-900-011 ADI-901-011	1x96w 5x96w	8.57pg/ml (15.62-500pg/ml)	Species independent	CS, P, S, SA	<3 hours
Serotonin ELISA Kit	ADI-900-175	1x96w	0.293ng/ml (0.49-500ng/ml)	Species independent	CS, Platets, P, S, U	3 hours
Testosterone ELISA Kit	ADI-900-065 ADI-901-065	1x96w 5x96w	5.67pg/ml (7.81-2000pg/ml)	Species independent	CS, F, P, S, SA, T	3 hours
Arg^8-Vasopressin ELISA Kit	ADI-900-017 ADI-901-017	1x96w 5x96w	3.39pg/ml (4.10-1000pg/ml)	Species independent	CS, P, S, U	Overnight + 1 hour

EPIGENETICS RESEARCH

Epigenetics can be defined as the structural adaptation of chromosomal regions so as to register, signal or perpetuate altered activity states. A variety of chromatin-altering post-translational modifications (PTMs) to histone proteins including acetylation, methylation, and ubiquitinylation, as well as direct modifications to DNA, are known to turn gene transcription off or on. To date, acetylation/deacetylation of histone lysine residues, and methylation of DNA have proven to be of greatest clinical significance amongst epigenetic changes. Enzo's epigenetics kits highlighted below focus on DNA methylation.

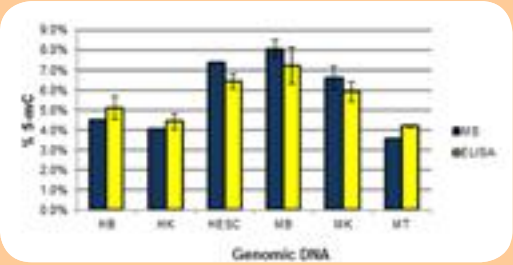
Convenient Kits for Sample Conversion & Detection

DNA methylation can alter gene expression, cell differentiation and often results in unidirectional changes to genomic DNA. Its involvement in so many cellular processes means errors resulting in abnormal DNA methylation patterns can lead to disease. Expanding our expertise in epigenetic modification analysis, Enzo Life Sciences now offers a portfolio of products that enable detection of DNA methylation which includes 5-Methylcytosine and 5-Hydroxymethylcytosine DNA ELISA kits.

5-Methylcytosine DNA ELISA Kit

- Accurately quantitate 5-mC in any DNA sample in <3 hours
- Ideal for high-throughput analysis
- High specificity comparable to LC-MS/MS-MRM analysis

ELISA Results Closely Correlate to Mass Spectrometry Analysis



Genomic DNA Mass Spectroscopy versus ELISA analysis: The 5-methlycytosine DNA ELISA kit (Prod. # ADI-900-224) quantifies 5-mC in numerous DNA samples with close correlation to LC-MS/MS-MRM analysis. Genomic DNA samples include: human brain (HB), human kidney (HK), human embryonic stem cell (HESC), mouse brain (MB), mouse kidney (MK), and mouse testes (MT).

SELECT ELISAS FOR EPIGENETIC RESEARCH

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
5-Methylcytosine DNA ELISA Kit	ADI-900-224-0001	1x96w	~0.5% 5-methylcytosine per 100ng single-stranded DNA (5-100% (100 ng/µl))	Species independent	DNA	<3 hours
5-Hydroxymethylcytosine DNA ELISA Kit	ADI-900-225-0001	1x96w	<0.02% 5-hydroxy-methylcytosine DNA per 100ng input DNA (0.03-0.55% (100 ng/µl))	Species independent	DNA	~3 hours

LEGEND
Species: H = human, M = mouse, R= rat, B= bovine, C = canine (dog), P = porcine (pig), RB = rabbit
Sample Types: AM = amniotic fluid, CL = cell lysates, CSF = cerebral spinal fluid, CS = culture supernatants, F = feces, M = milk, NL = nasal lavage, P = plasma, SA = saliva, SS= sputum supernatant, T = tissue, TC = tissue culture, U = urine, WhB = white blood cells, Product tables includes both certified and cited species and sample types.

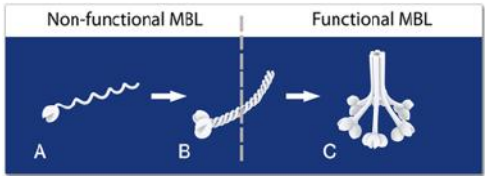
IMMUNITY/INFLAMMATION SIGNALING RESEARCH

Inflammation is one of the first responses of the immune system to infection or harmful stimuli, such as pathogens, damaged cells or irritants. It is a beneficial host response that protects tissues and involves a complex biological cascade of molecular and cellular signals that alter physiological responses, ultimately resulting in the familiar clinical symptoms. Ultimately, the body uses its vascular and immune system to try and remove the injurious stimuli and initiate the healing process. When inflammation is left unchecked, chronic inflammation can lead to various diseases, such as Alzheimer's disease, atherosclerosis, autoimmune disorders, cancer and others. There are many the intracellular regulators of inflammation, one of which is the transcription factor NF-κB which upregulates the expression of cytokines, eicosanoids and adhesion molecules. Other inflammation regulators include the complement system of proteins which are part of the innate immunity system, blood pressure regulators (e.g. vasoconstrictors like ET-1, vasodilators like nitric oxide), coagulation regulators (e.g. haptoglobin, fibrinogen), and general inflammation regulators (e.g. cytokines like IL-6, IL-8, and TNF-α; eicosanoids like prostaglandins). Overall, Enzo provides a plethora of products for the area of immunity and inflammation signaling research.

MBL Oligomer ELISA Kit

MBL (Mannan-Binding Lectin) is a carbohydrate-binding protein produced in the liver and secreted into the blood. The protein plays a key role in innate immunity, functioning as a player in the complement activation cascade and defending the body against invading microorganisms (bacteria, viruses, protozoa and fungi). MBL deficiency is common and associated with increased susceptibility to infections. Due to the high genetic variation in the MBL gene, at least 12% of the average Caucasian population has insufficient levels of functional MBL. Diagnosing MBL-deficiency is possible, but unfortunately no direct treatment exists, and it is difficult to manage. MBL evaluations are relevant for many patient groups, including children with recurrent infections and adults with recurrent and severe infections. Other relevant patient groups include women who have experience recurrent spontaneous abortions; or immunocompromised patients undergoing cancer chemotherapy or immunosuppression (transplant), or those with an autoimmune disease. The main supportive therapeutics for these patients include regular antibiotics, antivirals and antifungals, but for patients with combined immunodeficiencies or recurrent spontaneous abortions, some doctors prefer IV immunoglobulin treatment. To determine low levels of MBL in MBL-deficient people, Enzo Life Sciences offers a sensitive MBL oligomer ELISA Kit to quantify the oligomerized MBL in human serum and plasma.

Detect Low Levels of MBL Functional Form in MBL Deficient People



MBL exists at different levels of polymerization -- Non-functional and functional forms. A: a single chain monomer; B: 3 monomers joined in a collagen helix forming a subunit "flower; or C: up to 6 of "flowers" joined together to form a hexameric structure comprising a total of 18 MBL monomers. The MBL oligomer ELISA Kit (Prod. # BPD-KIT-029) allows you to measures the functional, oligomeric form of MBL.

- Detect low levels of oligomerized MBL in deficient persons
- Ready-to-use, pre-coated plate and individual calibrators save time and reduce errors
- Analyze 40 samples in duplicate in just 4 hours

SELECT ELISAS FOR IMMUNITY/INFLAMMATION RESEARCH

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
BAFF soluble (mouse), detection set	APO-54N-013-KI01	4x96w	0.3ng/ml (0-20ng/ml)	M	CS, S	2 hours
CD14, Soluble (human) ELISA Kit	ALX-850-302-KI01	1x96w	5- 50ng/ml	H	P, S	<2.5 hours
CD14, Soluble (mouse) ELISA Kit	ALX-850-303-KI01	1x96w	5-50ng/ml	M	P, S	<2 hours
CD40, Soluble (human) ELISA Kit	ALX-850-262-KI01	1x96w	6.92pg/ml (7.8-500pg/ml)	H	CS, S	<3.25 hours
CD40L, Soluble (human) ELISA Kit (high sensitivity)	ALX-850-311-KI01	1x96w	0.005ng/ml (0.08-5ng/ml)	H	CS, S	<3.5 hours
sCD44std, Soluble (human) ELISA Kit	ALX-850-053-KI01	1x96w	0.015ng/ml (0.12 to 4ng/ml)	H	CS, S	<3.5 hours
Complement C3a des Arg (human), ELISA Kit	ADI-900-058	1x96w	0.120ng/ml (0.313-20ng/ml)	H	P	3 hours
Complement C4a des Arg (human), ELISA Kit	ADI-900-059	1x96w	0.76ng/ml (0.78-200ng/ml)	H	P	3 hours
COX-2 (human), ELISA Kit	ADI-900-094	1x96w	0.25ng/ml (1.09-70ng/ml)	H	CL	2 hours
FasL, Soluble (human) ELISA Kit	ALX-850-246-KI01	1x96w	0.07ng/ml (0.16-10ng/ml)	H	CS, S	<3.5 hours
GRO/CINC-1 (rat), ELISA Kit	ADI-900-074	1x96w	1.99pg/ml (4.7-300pg/ml)	R	CS, P, S	2 hours
sHLA-G ELISA Kit	ALX-850-309-KI01	1x96w	1U/ml (1.95-125U/ml)	H	CS, P, S	~20 hours
IgG1 (mouse), ELISA Kit	ADI-900-109	1x96w	0.064ng/ml (7.81-250ng/ml)	M	CS, S	90 minutes
IgG2a (mouse), ELISA Kit	ADI-900-113	1x96w	318.8pg/ml (7.81-250ng/ml)	M	CS, S	90 minutes
IgG2b (mouse), ELISA Kit	ADI-900-110	1x96w	1.05ng/ml (7.81-250ng/ml)	M	CS, S	90 minutes
IgM (mouse), ELISA Kit	ADI-900-120	1x96w	0.60ng/ml (3.91-250ng/ml)	M	AS, CS, S	90 minutes
LBP, Soluble (mouse) ELISA Kit	ALX-850-305-KI01	1x96w	5-50ng/ml	M, R	P, S	<2.5 hours
LBP, Soluble ELISA Kit	ALX-850-304-KI01	1x96w	5-50ng/ml	H, B, C, RB, P, HR	P, S	<2.5 hours
MBL oligomer ELISA Kit	BPD-KIT-029	1x96w	2ng/ml (0.50-40ng/ml)	H	P, S	<4 hours
NFκB p65 ELISA Kit (chemiluminescent)	ADI-EKS-446	2x96w	Not available	H, M, R	CL	3 hours
PMN-Elastase (human) ELISA Kit	ALX-850-265-KI01	1x96w	1.98ng/ml (0.16- 10ng/ml)	H	CS, P	<2.5 hours
Progranulin (human) ELISA Kit	ALX-850-376-KI01	1x96w	18pg/ml (75-2500pg/ml)	H	P, S	2.5 hours
PTX3 (human) Detection Set	ALX-850-299-KI01	1 Set	75pg/ml	H, B	P, S	~5 hours
totalRANKL, soluble (human) ELISA Kit	ALX-850-019-KI01	1x96w	~1.56pg/ml (2.2-60pmol/l)	H	CS, P, S	Overnight + 3 hours
Trefoil Factor 1 (human), ELISA Kit	ALX-850-382-KI01	1x96w	0.019ng/ml (0.125-4ng/ml)	H	bronchoalveolar lavage fluid, P, S	<3 hours

LEGEND
Species: H = human, M = mouse, R= rat, B= bovine, C = canine (dog), P = porcine (pig), RB = rabbit
Sample Types: AM = amniotic fluid, CL = cell lysates, CSF = cerebral spinal fluid, CS = culture supernatants, F = feces, M = milk, NL = nasal lavage, P = plasma, SA = saliva, SS= sputum supernatant, T = tissue, TC = tissue culture, U = urine, WhB = white blood cells, Product tables includes both certified and cited species and sample types.

CYTOKINE ELISAS

Cytokines, including interleukins, interferons, and chemokines, are secreted signaling molecules that mediate and regulate immunity, inflammation and some developmental processes during embryogenesis. They also play an important role in angiogenesis and cancer. Cytokines can have pleiotropic, overlapping, and sometimes contradictory functions. This is dependent upon their concentration, the cell type they are acting on, and the presence of other cytokines and mediators. Enzo Life Sciences offers a wide selection of cytokine antibodies, proteins, and kits for innate and adaptive immune research including our wide selection of high-specificity human and mouse cytokine and interleukin ELISA kits.

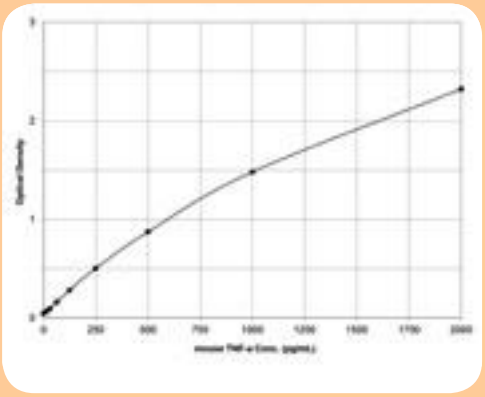
Cytokine/Interleukin ELISAs				
Human			Mouse	
Adiponectin	IL-4	Omentin	Adiponectin	Osteoprotegerin
ANGPTL	IL-6	Osteoprotegerin	ANGPTL3	RBP4
CD40	IL-8	Progranulin	IFN-γ	Resistin
CD40L	IL-10	RANKL	IL-1β	TGH-β1
CTRP5	IL-12p70	RBP4	IL-2	TNF-α
Dlk1	IL-13	Resistin	IL-4	Osteoprotegerin
FasL	IL-17A	RIG-I	IL-6	RBP4
IFN-γ	IL-33	TNF-α	IL-10	Resistin
IGF-1	Leptin	TGF-β1	Leptin	TGF-β1
IL-1β	Lipocalin 2 (NGAL)	TNF-R1	Lipocalin 2 (NGAL)	TNF-α
IL-2	Nampt	Vaspin	Nampt	

TNF Superfamily Receptors and Ligands

Since the identification of two distinct tumor-necrosis factors (TNFs α and β) in 1984, the TNF superfamily has grown to include 19 soluble and membrane-bound ligands and 32 receptors. Through timely expression and intricate signaling, TNF ligands and receptors act to regulate cell responses including activation, proliferation, differentiation, and apoptosis. While critical to regulation of beneficial processes such as immune defense and hematopoiesis, TNF signaling is also implicated in tumorigenesis, transplant rejection, virus replication, bone resorption, and diabetes, leading to the advent of numerous TNF –targeting therapeutics for cancer and auto-immune disease. Enzo Life Sciences offers a variety of TNF ELISAs for picogram level detection of soluble human TNF-Receptor 1 and human, rat or mouse TNF-α.

- Picogram level detection to as low as 4pg/ml of TNF-α molecules
- Flexible sample types includes: culture supernatants, plasma, and serum
- Easy-to-use protocol with results within 2.5 to 5 hours
- Negligible cross reactivity to similar molecules or other species

Easily Detect Low Levels of Mouse TNF-α



Standard curve experiment using the TNF-α (mouse), ELISA Kit (Prod. # ADI-900-047).

SELECT CYTOKINE ELISAS						
Product Name	**Product #**	**Size**	**Sensitivity (Range)**	**Species**	**Sample Types**	**Assay Time**
MCP-1 (rat), ELISA Kit	ADI-900-077	1x96w	20.45pg/ml (50-3200pg/ml)	R	CS, S	2 hours
IFN-γ (human), ELISA Kit	ADI-900-136	1x96w	<2pg/ml (25.6-1000pg/ml)	H	CS, P, S, U	3 hours
IFN-γ (mouse), ELISA Kit	ADI-900-137	1x96w	<10pg/ml (37-3000pg/ml)	M	CS, P, S, U	4 hours
IL-10 (human), ELISA Kit	ADI-900-036 ADI-901-036	1x96w 5x96w	3.75pg/ml (7.81-500pg/ml)	H	CS, P, S	<3 hours
IL-10 (mouse), ELISA Kit	ADI-900-148	1x96w	<12pg/ml (37-3000pg/ml)	M	CS, P, S	5 hours
IL-12p70 (human), ELISA Kit	ADI-900-202	1x96w	0.9pg/ml (7.81-500pg/ml)	H	CS, P, S	3 hours
IL-13 (human), ELISA Kit	ADI-900-208	1x96w	1.71pg/ml (1.56-100pg/ml)	H	CS, P, S	2 hours
IL-17A (human), ELISA Kit	ADI-900-177	1x96w	0.201pg/ml (2.34-75pg/ml)	H	CS, P, S	3 hours
IL-1β (human), ELISA Kit	ADI-900-130	1x96w	<1pg/ml (10.24-400pg/ml)	H	CS, P, S, U	4 hours
IL-1β (mouse), ELISA Kit	ADI-900-132A	1x96w	<3pg/ml (31.25-1000pg/ml)	M	CS, P, S	4 hours
IL-1β (rat), ELISA Kit	ADI-900-131	1x96w	<12pg/ml (25.6-2500pg/ml)	R	CS, P, S, T	<4 hours
IL-2 (human), ELISA Kit	ADI-900-118A	1x96w	6.6pg/ml (7.81-500pg/ml)	H	CS, P, S	3 hours
IL-2 (mouse), ELISA Kit	ADI-900-042	1x96w	3.12pg/ml (7.81-1000pg/ml)	M	CS, S	<4 hours
IL-33 (human), ELISA Kit	ADI-900-201	1x96w	0.60ng/ml (3.91-250ng/ml)	M	AS, CS, S	90 minutes
IL-33 soluble (human), detection set	APO-54N-025-KI01	5X96w	5pg/ml (0-500pg/ml)	H, M	CS, S	2.5 hours
IL-4 (human), ELISA Kit	ADI-900-145A	1x96w	<2pg/ml (10.24-400pg/ml)	H	CS, P, S	3.5 hours
IL-4 (mouse), ELISA Kit	ADI-900-043	1x96w	4.34pg/ml (7.81-1000pg/ml)	M	CS, P, S	3 hours
IL-6 (human), ELISA Kit	ADI-900-033 ADI-901-033	1x96w 5X96w	6.01pg/ml (7.81-500pg/ml)	H	CS, P, S, U	<3 hours
IL-6 (mouse), ELISA Kit	ADI-900-045	1x96w	1.01pg/ml (7.81-1000pg/ml)	M	CS, S, T	<3 hours
IL-8 (human), ELISA Kit	ADI-900-156 ADI-901-156 ADI-902-156	1x96w 5X96w 10x96w	0.64pg/ml (7.8-1000pg/ml)	H	CS, P, S	<3 hours
Osteoprotegerin (human) ELISA Kit	ALX-850-280A-KI01	1x96w	1.4pg/ml (0-400pg/ml)	H	P, S	~5 hours
TGF-β1 ELISA Kit	ADI-900-155	1x96w	3.3pg/ml in Assay Buffer 13; 10.8pg/ml in Assay Buffer 30 (31.25-1000pg/ml)	H, M, R, B	CS, P, S	4 hours
TL1A soluble (human), detection set	APO-54N-024-KI01	5x96w	20pg/ml (0-25ng/ml)	H	CS, S	<3 hours
TL1A soluble (human), ELISA Kit	APO-54N-027-KI01	1x96w	15pg/ml (39-2500pg/ml)	H	CS, S	<3 hours
TNF-R1 (Soluble) (human) ELISA Kit	ALX-850-047-KI01	1x96w	53pg/ml (0.08- 5ng/ml)	H	CS, S	2.5 hours
TNF-α (human), ELISA Kit	ADI-900-099 ADI-901-099	1x96w 5x96w	8.43pg/ml (15.63-1000pg/ml)	H	CS, P, S	4 hours
TNF-α (mouse), ELISA kit	ADI-900-047	1x96w	3.9pg/ml (31.25-2000pg/ml)	M	CS, P, S, T	5 hours
TNF-α (rat), ELISA kit	ADI-900-086A	1x96w	12.0pg/ml in Assay Buffer; 26.7pg/ml in culture media supplemented with 10% FBS (31.3-2000pg/ml)	R	CS	3 hours

LEGEND
Species: H = human, M = mouse, R= rat, B= bovine, C = canine (dog), P = porcine (pig), RB = rabbit
Sample Types: AM = amniotic fluid, CL = cell lysates, CSF = cerebral spinal fluid, CS = culture supernatants, F = feces, M = milk, NL = nasal lavage, P = plasma, SA = saliva, SS= sputum supernatant, T = tissue, TC = tissue culture, U = urine, WhB = white blood cells, Product tables includes both certified and cited species and sample types.

EICOSANOIDS ELISAS

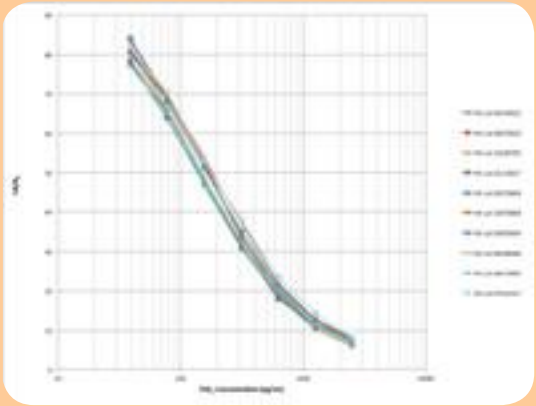
When inflammation is left unchecked, it can cease to be a beneficial event and contribute to the pathogenesis of numerous diseases which include rheumatoid arthritis, chronic bronchitis, emphysema, asthma, psoriasis, cancer, and colitis. Molecules in the arachidonic acid enzyme cascade play a number of important biological roles, both normal and pathological. The derivatives of arachidonic acid are known as eicosanoids, a group of biologically active oxygenated unsaturated fatty acids. They include prostaglandins, thromboxanes, leukotrienes, hydroxyeicosatetraenoic acids (HETEs), and lipoxins. Eicosanoids have been shown to enhance, as well as attenuate inflammation and have also been linked to carcinogenesis. Enzo Life Sciences provides a wide selection of high sensitivity ELISA kits for detection of eicosanoids, as well as small molecules, antibodies and a bioactive lipid library for studying the role of eicosanoids in inflammation and immunity.

Prostaglandin E_2 ELISAs

PGE_2 is an eicosanoid, lipophilic hormone important in inducing fever, causing uterine contractions during labor, and stimulating osteoblasts to release factors that cause bone reabsorption. Enzo Life Sciences offers the most sensitive and complete colorimetric ELISA kits for quantification of prostaglandins in a wide variety of sample types.

- Ultrasensitive colorimetric ELISAs to measure as little as 8.26pg/ml PGE_2
- Widely cited in peer reviewed literature
- Available to use for cell lysates, culture supernatants, serum, saliva, urine, and many more sample types
- High throughput capabilities with chemiluminescent and fluorescent format options

Consistent Lot-to-Lot Performance for Over 5 Years



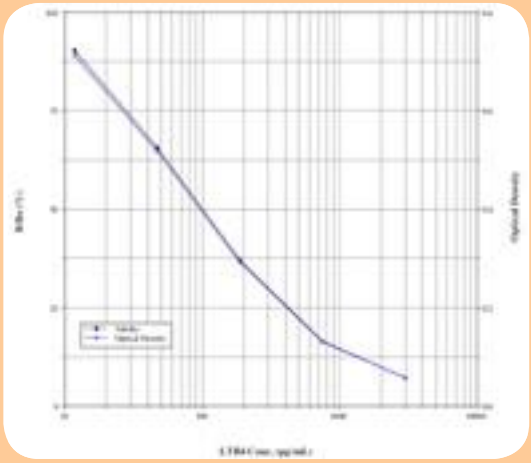
Lot-to-lot consistency: Graph demonstrates the robust and reproducible nature of the PGE_2 ELISA kit (Prod. # ADI-900-001) showing standard curves from 10 lots manufactured over 5 years.

LTB_4 ELISA Kit

Leukotrienes are major products of 5-lipoxygenase metabolism of arachidonic acid. Leukotriene B_4 (LTB_4) stimulates leukocyte functions including lysosomal enzyme release, adhesion, and aggregation of polymorphonuclear leukocytes. This eicosanoid has also been implicated as a potent mediator of inflammatory diseases and immunoregulation.

- Detect as low as 5.63pg/ml of LTB_4
- Broad dynamic range suitable for a large variety of samples
- Rapidly assay up to 39 samples in duplicate in just 4 hours
- Reproducible results day-after-day and lot-after-lot

Ultra-sensitive Detection of Leukotriene B_4



Standard curve experiment using the LTB4 ELISA kit (Prod. # ADI-900-068).

SELECT EICOSANOID ELISAS

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
12(S)-HETE ELISA Kit	ADI-900-050 ADI-901-050	1x96w 5x96w	146pg/ml (195-50,000pg/ml)	Species independent	CS, renal interstitial fluid, P, S, T	5 hours
15(S)-HETE ELISA Kit	ADI-900-051 ADI-901-051	1x96w 5x96w	69.21pg/ml (78.1-20,000pg/ml)	Species independent	CS, P, S, U	Overnight + 1 hour
13(S)-HODE ELISA Kit	ADI-900-108	1x96w	1.6ng/ml (3.9-1000ng/ml)	Species independent	CS, CL, P, S, SA, T, U	4 hours
LTB_4 ELISA Kit	ADI-900-068 ADI-901-068	1x96w 5x96w	5.63pg/ml (11.7-3000pg/ml)	Species independent	Bronchioalveolar Lavage Fluid, CL, CS, Crevicular Fluid, P, SA, T, U, WhB	4 hours
Cysteinyl leukotriene ELISA Kit	ADI-900-070 ADI-901-070	1x96w 5x96w	26.6pg/ml (78.1-2500pg/ml)	Species independent	CS, U	4 hours
PGE_1 ELISA Kit	ADI-900-005 ADI-901-005	1x96w 5x96w	5.58pg/ml (4.88-5000pg/ml)	Species independent	CS, Simulated Interstitial Lung Fluid, P, S, SA, U	<3 hours
PGE_2 CLIA Kit	ADI-910-001	1x96w	6.03pg/ml (7.81-1000pg/ml)	Species independent	CS, S, SA, U, WhB	3 hours
PGE_2 ELISA Kit	ADI-900-001 ADI-901-001	1x96w 5x96w	13.4pg/ml (39.1-2500pg/ml)	Species independent	CL, CS, CSF, Dialysate, Gingival Crevicular Fluid, P, S, SA, T, U, WhB	<3 hours
PGE_2 FPIA Kit	ADI-920-001	100 Tests	684pg/ml (1,562-100,000pg/ml)	Species independent	CS	30 minutes
PGE_2 high sensitivity ELISA Kit	ADI-930-001 ADI-931-001	1x96w 5x96w	8.26pg/ml (7.8-1000pg/ml)	Species independent	CS, P, S, SA, U, WhB	Overnight + 1 hour
6-keto-$PGF_{1\alpha}$ ELISA Kit	ADI-900-004 ADI-901-004	1x96w 5x96w	1.40pg/ml (3.2-50,000pg/ml)	Species independent	CS, S, SA, U	<3 hours
$PGF_{2\alpha}$ ELISA Kit	ADI-900-069 ADI-901-069	1x96w 5x96w	6.71pg/ml (3.05-50,000pg/ml)	Species independent	CL, CS, P, S, SA, U, WhB	<3 hours
$PGF_{2\alpha}$ high sensitivity ELISA Kit	ADI-930-069 ADI-931-069	1x96w 5x96w	0.98pg/ml (1.95-2000pg/ml)	Species independent	CS, M, P, S, SA, U	Overnight + 3 hours
8-iso-$PGF_{2\alpha}$ ELISA Kit	ADI-900-010 ADI-901-010	1x96w 5x96w	16.3pg/ml (6.1-100,000pg/ml)	Species independent	CS, P, T, U	<3 hours
Direct 8-iso-$PGF_{2\alpha}$ ELISA Kit	ADI-900-091 ADI-901-091	1x96w 5x96w	(2 hour) 103.2pg/ml; (overnight) 40.0pg/ml (160-100,000pg/ml)	Species independent	CL, P, S, T, U	<3 hours or Overnight + 45 min
15-deoxy-$\Delta^{12,14}$-PGJ^2 ELISA Kit	ADI-900-023 ADI-901-023	1x96w 5x96w	36.8pg/ml (195-200,000pg/ml)	Species independent	CS, P, SA, U	5 hours
TXB2 ELISA Kit	ADI-900-002 ADI-901-002	1x96w 5x96w	10.54pg/ml (13.7-10,000pg/ml)	Species independent	CL, Coronary Effluent, CS, Liver Perfusate, Platelets, P, Rectal Dialysate, S, SA, U, WhB	<3 hours
11-dehydro-TXB2 ELISA Kit	ADI-900-092 ADI-901-092	1x96w 5x96w	4.31pg/ml (9.8-10,000pg/ml)	Species independent	CS, U, S	3 hours
Urinary Prostacyclin ELISA Kit	ADI-900-025 ADI-901-025	1x96w 5x96w	6.58pg/ml (7.81-2000pg/ml)	Species independent	CS, U	<3 hours

LEGEND
Species: H = human, M = mouse, R= rat, B= bovine, C = canine (dog), P = porcine (pig), RB = rabbit
Sample Types: AM = amniotic fluid, CL = cell lysates, CSF = cerebral spinal fluid, CS = culture supernatants, F = feces, M = milk, NL = nasal lavage, P = plasma, SA = saliva, SS= sputum supernatant, T = tissue, TC = tissue culture, U = urine, WhB = white blood cells, Product tables includes both certified and cited species and sample types.

METABOLISM RESEARCH

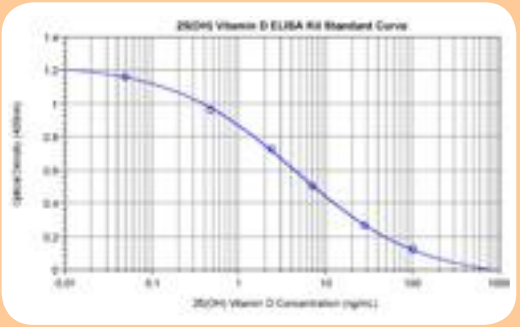
Metabolism includes enzyme-catalyzed reactions within cells that allow the organism to maintain their structure, grow, reproduce, and respond to their environment. Metabolism also involves the breakdown of organic substances (e.g. proteins, lipids, carbohydrates), harvesting of energy by way of cellular respiration, and using that energy to construct cellular components (e.g. proteins, nucleic acids). When the metabolic system is unbalanced, this can lead to metabolic diseases such as obesity, diabetes, insulin resistance, hypertension, diabetes, atherosclerosis, and cancer. Enzo Life Sciences ELISAs for metabolism research include kits for the analysis of popular metabolic biomarkers such as kidney failure (e.g. NGAL, KIM-1), bone mineralization (e.g. vitamin D), obesity (e.g. leptin) and several others.

25(OH) Vitamin D ELISA Kit

Known as the "sunshine vitamin", Vitamin D is responsible for metabolic intestinal absorption of calcium and phosphate, and is critical to the process of bone mineralization. Vitamin D deficiency is associated with a variety of diseases, including osteoporosis, rheumatoid arthritis, diabetes, and cancer. With a rapid assay time and easy-to use protocol, the Enzo 25(OH) Vitamin D ELISA kit is the fastest, user-friendly assay on the market. Reduce your sample prep and assay time without sacrificing sensitivity or reproducibility. Discover the benefits of this colorimetric, competitive immunoassay kit for quantifying 25(OH) Vitamin D_2 and D_3 in human plasma and serum samples.

- Measures as little as 1.98ng/ml of 25(OH) Vitamin D_2 and D_3 in just 1.5 hours
- Easy-to-use protocol with rapid dissociation step reduces errors and bench time
- Convenient alternative to labor-intensive LC/MS method

Detect Low Concentrations of Common Forms of Vitamin D (D_2 & D_3)



Standard curve experiment using the 25(OH) Vitamin D ELISA kit (Prod. # ADI-900-215).

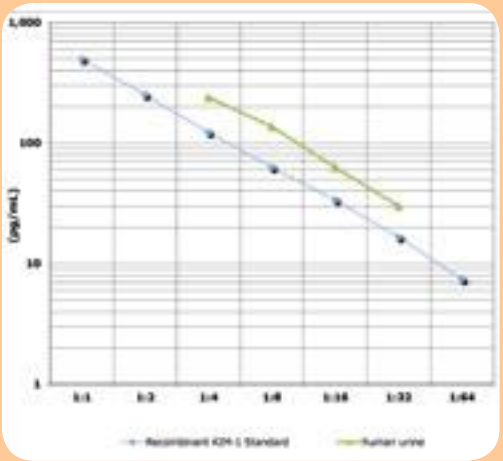
KIM-1 (human) ELISA Kit

Acute kidney injury (AKI), the precursor to acute renal failure (ARF) is the rapid loss of the kidney's ability to remove metabolic waste and help balance fluids and electrolytes in your body. This sudden loss of kidney function, which is recoverable, can be the result of illness, physical trauma, or nephrotoxic drugs. Numerous studies have identified a number of proteins and metabolites present in blood or urine with varied utility as diagnostic or prognostic markers of these various stages of kidney injury, disease progression, or nephrotoxicity. Enzo provides a variety of tools to detect the early stages of acute kidney injury or renal failure, including sensitive ELISA kits for detection of KIM-1, NGAL (lipocalin-2), and cystatin C. These rapid, high sensitivity kits are validated for a variety of species and samples types.

The KIM-1 (human) ELISA kit provides ultra-sensitive quantification enabling reduced input sample and matrix interference.

- Sensitive ELISA measures as little as 1.2pg/ml of KIM-1 in human urine
- Low cross-reactivity to TIM-3 and TIM-4
- Rapid assay with results in < 2 hours

Rapidly Quantify KIM-1, an Early Biomarker of AKI



Parallelism analysis using the KIM-1 (human) ELISA Kit (Prod. # ADI-900-226) indicates antigen binding characteristics are similar to native KIM-1 in urine samples with no matrix interference at the dilutions tested.

SELECT ELISAS FOR METABOLISM RESEARCH

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
25(OH) Vitamin D ELISA Kit	ADI-900-215-0001	1x96w	1.98ng/ml (0.5-1010ng/ml)	H	P, S	~1.5 hours
Adiponectin (human), ELISA Kit	ALX-850-377-KI01	1x96w	0.156ng/ml (CSF, urine); 0.47ng/ml (plasma, serum) (1-150ng/ml)	H	CSF, P, S, U	<3 hours
Chemerin (human), ELISA Kit	ALX-850-379-KI01	1x96w	0.1ng/ml (0.25-8ng/ml)	H	P, S	<3.5 hours
FABP4 (human), ELISA Kit	ALX-850-378-KI01	1x96w	0.05ng/ml (0.5-25ng/ml)	H	CSF, P, S, U	<4 hours
Gastrin I (human), ELISA Kit	ADI-900-026	1x96w	7.27pg/ml (39.1-10,000pg/ml)	H	CS, P, S	5 hours
Gastrin I (rat), ELISA Kit	ADI-900-149	1x96w	78.1pg/ml (78.1-5000pg/ml)	R	CS, P, S	5 hours
KIM-1 (human), ELISA Kit	ADI-900-226-0001	1x96w	1.279pg/ml (7.813-500pg/ml)	H	U	<2 hours
Leptin (human), ELISA Kit	ADI-900-028A	1x96w	23.4pg/ml (31.3-2000pg/ml)	H	CS, P, S	3 hours
Leptin (mouse), ELISA Kit	ADI-900-019A	1x96w	25.4pg/ml (50-3200pg/ml)	M	CS, P, S, T	3 hours
Leptin (rat), ELISA Kit	ADI-900-015A	1x96w	67.2pg/ml (100-6400pg/ml)	R	CS, P, S	3 hours
Nampt (Visfatin/PBEF) (human) ELISA Kit	AG-45A-0006EK-KI01	1x96w	30pg/ml (0.125-8ng/ml)	H	S	2.5 hours
Nampt (Visfatin/PBEF) (mouse/ rat) Dual ELISA Kit	AG-45A-0007EK-KI01	1x96w	50pg/ml (0.5-32ng/ml)	M, R	S	<4 hours
NGAL (dog) ELISA Kit	BPD-KIT-043	1x96w	0.56pg/ml (4-400pg/ml)	C	CS, P, S, U, T	4 hours
NGAL (human) ELISA Kit	BPD-KIT-036	1x96w	4pg/ml (10-1000pg/ml)	H	CS, P, S, U, T	<4 hours
NGAL (monkey) ELISA Kit	BPD-KIT-045	1x96w	1.5pg/ml (10-200pg/ml)	MK	CS, P, S, U, T	<4 hours
NGAL (mouse) ELISA Kit	BPD-KIT-042	1x96w	0.75pg/ml (10-1000pg/ml)	M	CS, P, S, U, T	4 hours
NGAL (pig) ELISA Kit	BPD-KIT-044	1x96w	1pg/ml (10-400pg/ml)	P	CS, P, S, U, T	4 hours
NGAL (rat) ELISA Kit	BPD-KIT-046	1x96w	0.5pg/ml (4-400pg/ml)	R	CS, P, S, U, T	4 hours
NGAL rapid (human) ELISA Kit	BPD-KIT-037	1x96w	< 0.1ng/ml (0.2-20ng/ml)	H	P, U	1 hour
Omentin 1 (human), detection set	APO-54N-026-KI01	5x96w	0.4ng/ml (0.5-32ng/ml)	H	CS, S	3 hours
Omentin 1 (human), ELISA Kit	APO-54N-034-KI01	1x96w	0.4ng/ml (0.5-32ng/ml)	H	CS, P, S	~3 hours
sRAGE (human), ELISA Kit	ALX-850-381-KI01	1x96w	19.2pg/ml (50 -3200pg/ml)	H	P, S	<4.5 hours
Vaspin (human) ELISA Kit	ALX-850-375-KI01	1x96w	10pg/ml (0.031-2ng/ml)	H	P, S	2.5 hours

LEGEND
Species: H = human, M = mouse, R= rat, B= bovine, C = canine (dog), P = porcine (pig), RB = rabbit
Sample Types: AM = amniotic fluid, CL = cell lysates, CSF = cerebral spinal fluid, CS = culture supernatants, F = feces, M = milk, NL = nasal lavage, P = plasma, SA = saliva, SS= sputum supernatant, T = tissue, TC = tissue culture, U = urine, WhB = white blood cells, Product tables includes both certified and cited species and sample types.

NEUROSCIENCE RESEARCH

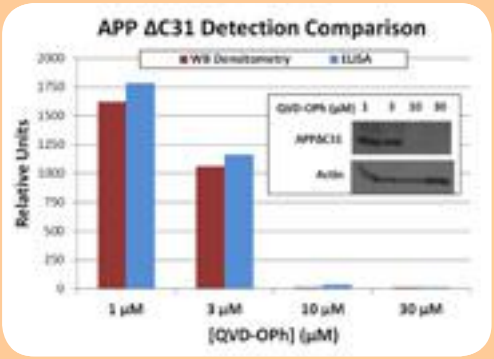
Neuroscience encompasses the study of the nervous system and includes neurodegeneration which involves the progressive loss of structure or function of neurons. It is estimated the aging worldwide population will result in over 100 million sufferers of dementia by the year 2050, a postulate that continues to drive major research efforts in neurodegenerative diseases and the associated loss of cognitive function. Diseases such as Alzheimer's (AD), Parkinson's, Huntington's, and Amyotrophic Lateral Sclerosis are considered diseases of protein homeostasis (proteostasis), characterized by loss of specific neuronal populations, and the presence of inclusion bodies consisting of insoluble, unfolded proteins. Drug development programs for treatment of these diseases include modulators of key proteins and enzymes that regulate proper protein folding, modification, and clearance, seeking to reverse or prevent the accumulation of protein aggregates and toxic intermediates. Enzo's offers several neurosciences ELISAs which include unique targets such as APP ΔC31, LVV Hemorphin 7, and SMN to understand specific neurodegenerative diseases.

APP ΔC31 ELISA Kit

The progressive neurodegenerative disease, Alzheimer's disease, is a characterized by the senile plaques, neurofibrillary tangles and loss of synapses and neurons. AD has been largely viewed as a disease of toxicity being mediated by the accumulation of the amyloid beta (Aβ) peptide as plaques within the brain resulting in damage to brain cells from the binding of damaging metals, reactive oxygen species production and direct damage to cellular membranes. Recent research has suggested that the Aβ peptide is a multifunctional peptide with non-pathological effects and that its association with AD is in conjunction with its roles in combination with other proteins such as the amyloid precursor protein (APP) resulting in the imbalance between the processes of memory formation and normal forgetting. Enzo Life Sciences offers a novel ELISA kit to measure APP ΔC31, an important amyloid precursor protein fragment with a unique pro-apoptotic mechanism leading to AD.

- Sensitive detection of an important APP fragment with a unique pro-apoptotic mechanism
- Validated for human cell lysates and cerebral spinal fluid sample types
- High specificity with low cross-reactivity to similar APP isoforms

Reliable Screening of APP ΔC31 Inhibition



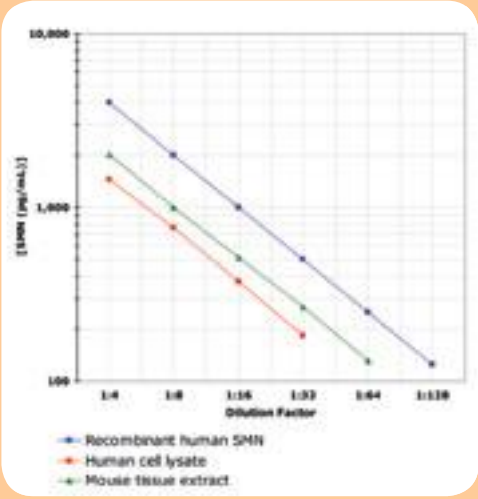
Inhibition experiment by ELISA (Prod. # ADI-900-227) and Western blot analysis indicates both methods are in agreement using treatment of increasing concentrations of caspase inhibitor which reduces the production of APP ΔC31.

SMN ELISA Kit

Survival Motor Neuron (SMN) is a ~38 kDa protein produced primarily by the SMN1 gene. Deletion or mutation of the SMN1 gene results in a reduced level of full-length SMN protein and manifests as a range of neuromuscular phenotypes in humans as the disease spinal muscular atrophy (SMA). The kit provides reproducible, fully quantitative results for the detection of mouse and human SMN in cell lysates, surpassing semi-quantitative Western blot analysis.

- Detect as little as 50pg/ml of SMN
- Results in just 3 hours from up to 39 samples in duplicate
- ELISA kit developed in collaboration with the SMA Foundation

First Ready-to-use ELISA for Quantifying Human or Mouse SMN



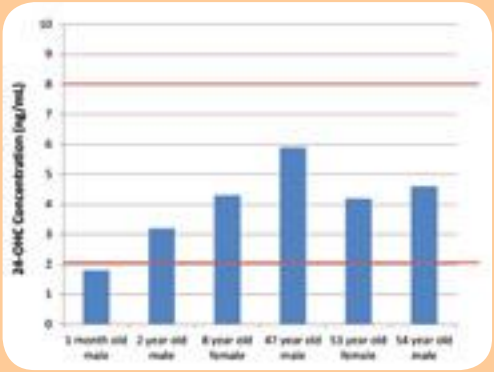
Parallelism analysis using the SMN ELISA kit (Prod. # ADI-900-209) indicates antigen binding characteristics are similar to native SMN in human and mouse cell lysate samples with no matrix interference at the dilutions tested.

24(S)-Hydroxycholesterol ELISA Kit

24(S)-Hydroxycholesterol (24-OHC), an enzymatically-generated side chain-hydroxylated derivative of cholesterol, is a pivotal marker in the study of cerebral cholesterol homeostasis. Cholesterol is unable to cross the blood-brain barrier however, Cyp46 enzyme converts cholesterol to the more soluble 24-OHC, and this hydroxylated form of cholesterol is able to cross the blood-brain barrier. This conversion allows for the reduction of cholesterol in the brain and the efflux of 24-OHC from the brain into cerebral spinal fluid and blood. The flux of 24-OHC has been seen in patients with a variety of neurodegenerative diseases. In the instance of Alzheimer's disease, the change in 24S-hydroxycholesterol concentrations may be indicative of different pathogenetic mechanisms and/or the progression of the disease. As in the case of multiple sclerosis, concentrations of 24-OHC have been shown to decrease, likely due to the loss of neuronal cells responsible for the synthesis.

- Convenient, user-friendly alternative to mass spectrometry
- Measure as little as 0.78ng/ml of 24(S)-hydroxycholesterol in just 2 hours
- Low cross-reactivity with structurally related molecules

Detect Normal and Diseased Levels of 24(S)-Hydroxycholesterol



Normal human cerebral spinal fluid samples were diluted 1:2 in assay buffer and analyzed in the assay (Prod. # ADI-900-210) for 24(S)-Hydroxycholesterol levels.

SELECT ELISAS FOR NEUROSCIENCE RESEARCH

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
24(S)-Hydroxycholesterol ELISA Kit	ADI-900-210-0001	1x96w	0.78ng/ml (0.39-100ng/ml)	Species independent	CSF, CS, T	2 hours
APP ΔC31 ELISA Kit	ADI-900-227-0001	1x96w	0.92pM (11.72-1500pM)	H	CL, CSF	~2 hours
Cystatin C (human) ELISA Kit	ALX-850-292-KI01	1x96w	0.2ng/ml (200 – 10,000ng/ml)	H, M	CS, P, S	overnight + 1.25 hours
Cystatin C (mouse) ELISA Kit	ALX-850-328-KI01	1x96w	0.04ng/ml (0.156-10ng/ml)	M, R	S	<3 hours
Cystatin C (rat) ELISA Kit	ALX-850-330-KI01	1x96w	0.06ng/ml (0.78-50ng/ml)	M, R	S	<5.5 hours
LVV Hemorphin 7 ELISA Kit	ADI-900-205	1x96w	6.1pg/ml (9.8-10,000pg/ml)	Species independent	S, T	3 hours
SMN ELISA Kit	ADI-900-209	1x96w	50pg/ml (50-3200pg/ml)	H, M	CL	3 hours
Substance P ELISA Kit	ADI-900-018 ADI-901-018	1x96w 5x96w	8.04pg/ml (9.76-10,000pg/ml)	Species independent	CS, P, S, SA, T, U	3 hours

LEGEND
Species: H = human, M = mouse, R= rat, B= bovine, C = canine (dog), P = porcine (pig), RB = rabbit
Sample Types: AM = amniotic fluid, CL = cell lysates, CSF = cerebral spinal fluid, CS = culture supernatants, F = feces, M = milk, NL = nasal lavage, P = plasma, SA = saliva, SS= sputum supernatant, T = tissue, TC = tissue culture, U = urine, WhB = white blood cells, Product tables includes both certified and cited species and sample types.

OXIDATIVE STRESS RESEARCH

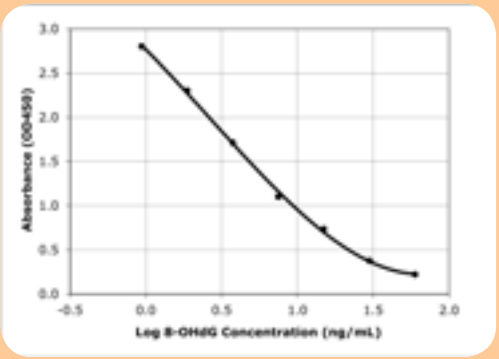
The term oxidative stress reflects an imbalance in free radical formation within a cell or organism, most commonly in the form of reactive oxygen or nitrogen species (ROS/RNS). ROS/RNS such as superoxide anions, hydroxyl radicals, hydrogen peroxide, nitric oxide, and peroxynitrite originate from a variety of sources including changes in aerobic metabolism, immune activation, UV radiation, heme accumulation, and hypoxia. Failure of the cell's defense mechanisms to compensate for accumulating insults such as mitochondrial dysfunction, DNA damage, misfolded proteins, and lipid peroxidation can trigger programmed cell death pathways, and has been linked to clinically relevant diseases including cancer, cardiovascular disease, asthma, ischemia, diabetes, and neurodegenerative disease. Choose one of our sensitive ELISAs to detect a variety of oxidative stress biomarkers.

DNA Damage (8-OHdG) ELISA Kit

Exposure of cells to oxidative and environmental stresses frequently results in the breakdown or oxidation of genomic DNA. Assays to evaluate the integrity of genomic DNA, or to assess the presence of oxidized DNA are frequently used as a means of verifying the onset of apoptosis or DNA damage.

- Quantify levels of <1ng/ml in less than 2.5 hours
- Tested in a variety of biofluids (urine, serum, saliva)
- Convenient, colorimetric 96-well plate formats

Rapidly Detect <1ng/ml 8-OHdG



Standard curve experiment using the DNA Damage ELISA kit (Prod. # ADI-EKS-350).

SELECT ELISAS FOR OXIDATIVE STRESS RESEARCH

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
ADMA Direct (mouse/rat) ELISA Kit	ALX-850-327-KI01	1x96w	0.05µmol/l	M, R	P, S	15 to 20 hours + 1 hour
ADMA Direct ELISA Kit	ALX-850-323-KI01	1x96w	0.05µmol/l (expected value: 0.45µmol/l ± 0.19µmol/l)	H	P, S	15 to 20 hours + 1 hour
Cytochrome C (human), ELISA Kit	ADI-900-141	1x96w	6.03pg/ml (28.13-900pg/ml)	H	CL	3 hours 15 minutes
DNA Damage ELISA Kit	ADI-EKS-350	1x96w	0.59ng/ml (1.875-60ng/ml)	Species independent	CL, CS, P, S, SA, U, seminal fluids, DNA extracts	<2.5 hours
HO-1 (human), ELISA Kit	ADI-EKS-800	1x96w	0.78ng/ml (0.78-25ng/ml)	H	CL, P, S, T	<2.5 hours
HO-1 (rat), ELISA Kit	ADI-EKS-810A	1x96w	0.036ng/ml (0.195-12.5ng/ml)	R	CL, P, S, T, bronchoalveolar lavage fluid	<3 hours
ImmunoSet™ HO-1 (human), ELISA development set	ADI-960-800	5x96w	49pg/ml (0.195 – 12.5ng/ml)	H	CL, T	Plate coating - Overnight + 1 hour; Assay - 3 hours
ImmunoSet™ HO-1 (mouse), ELISA development set	ADI-960-071	5x96w	96pg/ml (0.195 – 12.5ng/ml)	M	CL, P, S, T	Plate coating - Overnight + 1 hour; Assay - 3 hours
ImmunoSet™ HO-1 (rat), ELISA development set	ADI-960-810	5x96w	39pg/ml (0.195 – 12.5ng/ml)	R	CL, P, S, T, bronchoalveolar lavage fluid	Plate coating - Overnight + 1 hour; Assay - 3 hours
Myeloperoxidase (human), ELISA Kit	ADI-900-115	1x96w	Assay Buffer 13: 0.028ng/ml; Assay Buffer 31: 0.019ng/ml (0.195-12.5ng/ml)	H	CS, Li-heP, NL, P, SS, U	3 hours
ImmunoSet™ PDI ELISA development set	ADI-960-072	5x96w	3.93ng/ml (7.8-250ng/ml)	H, M, R	CL, CS, P, T	Plate coating - Overnight + 1 hour; Assay - 3 hours
Protein Carbonyl ELISA Kit	ALX-850-312-KI01	1x96w	Not applicable	N/A	P, T	4.5 hours
SDMA (human) ELISA Kit	ALX-850-331-KI01	1x96w	0.05µmol/l (0.1-2µmol/l)	H	P, S	15 to 20 hours + 1 hour
Superoxide Dismutase (Cu/Zn) ELISA Kit	ALX-850-033-KI01	1x96w	0.04ng/ml (0.08-5ng/ml)	H	CS, S	<2 hours

PROTEOSTASIS/CHAPERONES RESEARCH

Protein homeostasis or 'proteostasis' is the process that regulates proteins within the cell in order to maintain the health of both the cellular proteome and the organism itself. Proteostasis involves a highly complex interconnection of pathways that influence the fate of a protein from synthesis to degradation. As individual components are affected, the others adjust accordingly to maintain normal function. Disruption of one or more of these proteostasis influencers can manifest in pathologies such as Alzheimer's disease, cancer, and diabetes.

To fuel your proteostatis research, Enzo Life Sciences has an unrivaled portfolio of ubiquitin/proteasome and heat shock protein research reagents through our acquistion of Biomol International, Stressgen® Bioreagents and Assay Designs®. Our development efforts within the areas of protein synthesis, modification, and degradation continue to produce cutting-edge tools for dissecting key biological processes at the forefront of academic discourse in the proteostasis field. This commitment is evidenced most recently by first-to-market immunoassays, cell based assays, and compound libraries for autophagy, an emerging pathway of interest in cellular regulation of protein turnover and its relation to disease.

Chaperones/Heat Shock Proteins

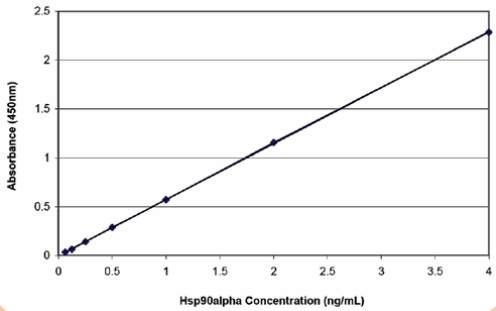
Building proteins within the cell is a complex process involving post-translational modification and protein folding. Because of the critical role proteins play, incorrect folding can have devastating consequences. Enzo has a number of Assay kits and reagents directed at monitoring the delicate balance of protein synthesis, folding, and degradation. These include highly conserved heat shock proteins (HSPs) are constitutively expressed and function as molecular chaperones which facilitate the synthesis and folding of proteins. HSPs also participate in protein assembly, export, turn-over and regulation. Under stressful conditions such as heat shock, pH shift or hypoxia, increased expression of HSPs protect the cell by stabilizing unfolded proteins, giving the cell time to repair or re-synthesize damaged proteins. Enzo offers a number of kits, antibodies, proteins, inhibitors and more reagents to study HSPs/chaperones, HSF's, Grp's, ERp's, clusterin and other stress related molecules. Our ELISAs for proteostasis and chaperone research are sensitive, widely published and available for multiple species and sample types.

HSP90α (human), ELISA Kit

The Hsp90 family of heat shock proteins represents one of the most abundantly expressed and highly conserved families of cellular chaperones whose expression can be upregulated under conditions of cellular stress, and includes cytoplasmic (Hsp90α and β), ER (grp94), and mitochondrial (TRAP1) localized members. Structurally, Hsp90 is characterized by an N-terminal ATP-binding domain, a medial substrate-binding domain, and a C-terminal dimerization motif. Hsp90 dimers function in cooperation with co-chaperones (e.g. Hsp40, Hsp70, Hop, p23) to stabilize a multitude of client protein substrates, including steroid hormone receptors, protein kinases, and transcription factors. The essential binding and hydrolysis of ATP by Hsp90 is inhibited by ansamycin drugs (e.g. geldanamycin, 17-AAG) which occupy the N-terminal Hsp90 nucleotide-binding pocket. Many Hsp90 client proteins such as erbB2/Her-2, c-raf, bcr-abl, p53, and hTERT, are members of well characterized oncogenic pathways, making Hsp90 inhibitors useful anticancer agents.

- Highly reproducible with less than 10% variation between assays
- Detect as little as 50pg/ml of human HSP90α in just 3 hours
- No cross reactivity with HSP90β, Grp94, HSP60, or HSP70 (HSP72)
- Obtain quantitative results for cell lysates, serum and tissue sample types

Most Sensitive Detect of Human HSP90α



Standard curve experiment using the HSP90α (human), ELISA kit (Prod. # ADI-EKS-895).

LEGEND
Species: H = human, M = mouse, R= rat, B= bovine, C = canine (dog), P = porcine (pig), RB = rabbit
Sample Types: AM = amniotic fluid, CL = cell lysates, CSF = cerebral spinal fluid, CS = culture supernatants, F = feces, M = milk, NL = nasal lavage, P = plasma, SA = saliva, SS= sputum supernatant, T = tissue, TC = tissue culture, U = urine, WhB = white blood cells, Product tables includes both certified and cited species and sample types.

SELECT ELISAS FOR PROTEOSTASIS/CHAPERONES RESEARCH

Product Name	Product #	Size	Sensitivity (Range)	Species	Sample Types	Assay Time
ImmunoSet™ αB-Crystallin ELISA development set	ADI-960-074	5x96w	0.59ng/ml (1.25-40ng/ml)	H, M, R, B	CL	Plate coating - Overnight + 1 hour; Assay - 3 hours
ImmunoSet™ Grp75 ELISA development set	ADI-960-143	5x96w	0.762ng/ml (3.125 – 100ng/ml)	H, M, R	CL	Plate coating - Overnight + 1 hour; Assay - 3 hours
Grp78/BiP ELISA kit	ADI-900-214-0001	1x96w	8.4ng/ml (1.4-4500ng/ml)	H, M, R	CL, S	2.5 hours
ImmunoSet™ Grp94 ELISA development set	ADI-960-077	5x96w	1.29ng/ml (6.25-200ng/ml)	H, M, R, C	CL, T	Plate coating - Overnight + 1 hour; Assay - 3 hours
HSF1 ELISA kit	ADI-900-198	1x96w	61pg/ml (0.39-12.5ng/ml)	H, M	CL, T	3 hours
[pSer^{326}]HSF1 ELISA kit	ADI-900-199	1x96w	35pg/ml (0.39-12.5ng/ml)	H, M	CL, T	3 hours
ImmunoSet™ HSP25 (rodent), ELISA development set	ADI-960-075	5x96w	0.38ng/ml (0.78-25ng/ml)	M, R	CL	Plate coating - Overnight + 1 hour; Assay - 3 hours
HSP27 (human), ELISA kit	ADI-EKS-500	1x96w	0.39ng/ml (0.39-25ng/ml)	H	CL, P, S, T	<3 hours
[pSer^{15}]HSP27 (human), ELISA kit	ADI-900-170	1x96w	10.15pg/ml (31.25-1000pg/ml)	H	CL, P, S	3 hours
[pSer^{78}]HSP27 (human), ELISA kit	ADI-900-165	1x96w	4.30pg/ml (31.25-1000pg/ml)	H	CL, P, S	3 hours
ImmunoSet™ HSP27 high sensitivity (human), ELISA development set	ADI-960-076	5x96w	97pg/ml (0.1-3.2ng/ml)	H	CL, P, S	Plate coating - Overnight + 1 hour; Assay - 2 hours 45 minutes
HSP60 (human), ELISA kit	ADI-EKS-600	1x96w	3.125ng/ml (3.125-100ng/ml)	H	CL, S, T	<3 hours
Anti-HSP60 IgG/A/M (human), ELISA kit	ADI-EKS-650	1x96w	2.88ng/ml (7.81-250ng/ml)	H	S	<4 hours
HSP70 ELISA kit	ADI-EKS-700B	1x96w	200pg/ml (780-50,000pg/ml)	H, M, R, F	CL, S, T	4.5 hours
HSP70 high sensitivity ELISA kit	ADI-EKS-715	1x96w	90pg/ml (0.20-12.5ng/ml)	H, M, R	CL, S, P, U	4.5 hours
Amp'd™ HSP70 high sensitivity ELISA kit	ENZ-KIT-101-0001	1x96w	7pg/ml (0.039-5ng/ml)	H, M, R	S, P	4.5 hours
Anti-HSP70 IgG/A/M (human), ELISA kit	ADI-EKS-750	1x96w	6.79ng/ml (31.25-1000ng/ml)	H	S	<4 hours
HSP70B' ELISA kit	ADI-EKS-725A	1x96w	62pg/ml (0.156-10ng/ml)	H	CL, S, T	<4.5 hours
HSP90α (human), ELISA kit	ADI-EKS-895	1x96w	50pg/ml (62.5-4000pg/ml)	H	CL, S, T	<3 hours
Proteasome ELISA Kit	BML-PW0575-0001	1x96w	Not applicable	N/A	Biological samples	<3.5 hours

IMMUNOASSAY GOOD PRACTICES

1. Always read and follow the product instructions. The information contained in the kit manual is your first source of knowledge for your particular assay. If there is any special handling information that you need to be aware of, it will be recorded in the kit insert. The insert has been written to allow you the maximum amount of useful information in one convenient location. NOTE: Do not use the same kit insert repeatedly since the kits and inserts are periodically improved. The information that comes packaged with each kit contains information about any improvements and is the most current information available.

2. Check the calibration of the pipets that will be used for the assay. Each manufacturer should supply the recommended calibration protocol and performance specifications with each instrument. You need to verify that the volumes you are measuring are correct.

3. Do not mix components from different lots or kits. Each component is lot specific and designed to give you a defined level of performance when used before the expiration date.

4. Always store the kit components at the recommended conditions. In some instances, special components may need to be frozen for maximum stability. Each component will have specific storage information printed on its label. kits containing materials that require special storage should be clearly marked on the outside of the box.

5. Do not use the kit past the expiration date marked on the box. While many of the individual components may have expiration dates that extend beyond the kit date, the total kit expiration date has been determined based on the stability of all the materials stored at the suggested conditions.

6. Allow the plate to warm to room temperature before opening. The wells in the microtiter plate are coated with an antibody solution. While this coating is stable and robust, moisture will corrupt it causing a decrease in performance. The coated plate is shipped in a reusable mylar bag containing a mini-desiccant packet to ensure dry conditions. When not in use, the wells should be stored at 4°C, tightly sealed in the mylar bag with desiccant. Do not throw the plate frame away after your first assay. You will need it for the remaining wells stored in the foil bag.

7. Allow all reagents to warm to room temperature before opening unless instructed otherwise. Many of the reagents contain temperature-dependent components that may come out of solution when cold. Using the reagents at room temperature ensures that you have a consistent formulation from assay to assay.

8. Pre-rinse pipet tips with the reagent before transferring a volume. To pre-rinse, insert the end of the pipet tip just under the surface of the reagent and draw up a volume according to the pipet manufacturer's directions using a slow even motion. Expel the volume using the same steady motion. Typically you should pre-rinse the tip three times, using the fourth "draw" as your transfer volume. This is good lab practice regardless of the tip manufacturer's claims of low retention. Precision and accuracy will be maximized by taking the time to pre-rinse tips on a consistent basis. You need to pre-rinse a tip only once if you are using it to make multiple transfers. Always change the pipet tip if it has been accidentally contaminated.

9. Always use a fresh pipet tip for each standard, sample or reagent. Do not use the same tip for your standards even when pipetting from the lowest to highest concentrations. You will sacrifice precision while saving less than a penny.

10. Pipet the first reagent into the bottom of each well. Pipet subsequent volumes in different locations on the sides of each well, being careful to avoid cross-contaminating reagents. A simple way to avoid contamination is to pipet one reagent into all of the wells at the same location (eg.: left side wall), then turn the plate 90° and pipet the next reagent at the same position (eg.: left side wall). Because you rotated the plate, this position will put your pipet tip at a new location within the well.

11. Be careful handling the microtiter wells and reagents to prevent contamination. You have a variety of enzymes on your skin including proteases and endogenous alkaline phosphatase. If you accidentally touch a pipet tip, you can transfer these enzymes to your reagents resulting in unusable kit components. This is especially important for your substrate. The use of contaminated substrate will result in a less sensitive assay.

12. If culture media (CM) samples are being analyzed, then the standards should be diluted in non-conditioned media. Do not assume that all CM are the same. Not only do the media differ in formulation, but serum supplements will also differ by type and lot. You should expect to find a basal level of endogenous analyte in media containing serum supplements. In addition, other medium supplements can contribute to the overall detection in an assay. If non-conditioned media is used as the standard diluent, then all samples will be relative to the standard curve. Using non-conditioned media usually results in a modest depression of the standard curve relative to standards diluted in kit assay buffer. This depression is acceptable since it is more important for the samples to be relative to the appropriate standard curve.

13. It is simply good lab practice to run duplicates for repeatability verification. In addition, you maximize your results when you run all wells in duplicate. It is easier to edit one outlying data point than to run the experiment over again because you were not able to get an appropriate measurement for some standard or sample. An outlying measurement can result from an improper amount of a reagent being added to a well or losing a portion of the volume during preparation or incubation. While one never thinks that this will happen to them, unforeseen things sometimes happen with unfortunate results.

Have specific troubleshooting or technical questions?
Call our tech support team! We are here to help!

800.942.0430
M-F 9AM-5PM EST

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Species: H = human, M = mouse, R= rat, B= bovine, C = canine (dog), P = porcine (pig), RB = rabbit
Sample Types: AM = amniotic fluid, CL = cell lysates, CSF = cerebral spinal fluid, CS = culture supernatants, F = feces, M = milk, NL = nasal lavage, P = plasma, SA = saliva, SS= sputum supernatant, T = tissue, TC = tissue culture, U = urine, WhB = white blood cells, Product tables includes both certified and cited species and sample types.

Weak Color Development

Was substrate added at the correct point in the assay?
See the assay procedure provided in the instruction manual.

Were the antibody and conjugate added at the correct time?
See the assay procedure provided in the instruction manual. The antibody and conjugate provided are often color-coded for convenience and to help reduce laboratory errors.

Did all of the components belong to the specific kit being used?
When customers order more than one type of kit, they can sometimes confuse the reagents between kits.

How long was the substrate incubation?
It is possible that Stop Solution was added to the plate without allowing the full substrate incubation.

What were the conditions of the substrate incubation?
If a plate is left to incubate on a cold lab bench or under a drafty area during ambient incubations, signal values (e.g. optical density) may be lower than expected.

Were reagents brought to room temperature prior to use?
It is important to ensure that all reagents are brought to room temperature prior to use, or as mentioned in the product specific instruction manual. Usually leaving the kit out on the bench top at ambient temperature for about half an hour prior to setting up the assay will be sufficient, when the reagents can be stored at 4°C. Frozen volumes take a little more time to come to room temperature. Do not thaw frozen reagents in a water bath. If a different standard/sample diluent is used (such as culture media) this must also be warmed.

Was the plate read at the correct wavelength?
See the assay procedure provided in the instruction manual to ensure you're reading the plate at the correct wavelength. It may be necessary to check the filters in your plate reader and the program using during reading. If others are using the instrument, they may make changes to the settings for their experiment.

Were the proper volumes of reagents added?
See the assay procedure provided in the instruction manual.

What were the conditions of the incubations?
If the incubation times and temperatures are not observed, this can lead to lower than expected signal values (e.g. optical density). Pay attention that in air-conditioned rooms the temperature does not drop below 21°C.

How was the plate shaken during incubations (if required)?
If customers do not have a plate shaker, they will often use an orbital flask shaker or some other piece of equipment. This is not a problem as long as the liquid is vigorously displaced about 3/4 of the way up the sides of the wells without coming out. It is very important that the plate is secured into place. If the plate is not shaken and it is required in the procedure, a longer incubation may be necessary to bring the reagents to equilibrium.

How long after the addition of Stop Solution was the plate read?
The plate needs to be read at the correct wavelength as soon as possible after the addition of the Stop Solution. We generally recommend that the plate be read within 10 minutes.

Poor Standard Curve

What was used as the standard diluent?

Diluents other than the supplied assay buffer may contain interfering substances that can affect the standard curve.

How was the precision of the standard curve?

If the %CV values for the standard curve signal values (e.g. optical density) are consistently above 5%, it may be a good idea to pay particular attention to pipetting technique. If the standard curve signal values were acceptable but the sample precision was not, the problem relates to the sample. Also, see recommendations under "Poor Precision".

Were the Blank and NSB values subtracted out?

If the net signal values (e.g. optical density) are not used, the signal values will appear higher than those presented in the sample data in the instruction manual.

How were the standard dilutions prepared?

It is important that test tubes of an appropriate size and material are used. Standard dilutions must be properly mixed (e.g. vortexed) while preparing the serial dilutions. It is also crucial that the standard dilutions be prepared and used within the time specified in the product specific instruction manual. Never store unused standard dilutions for a later use.

Poor Precision

Were the wells washed properly?

All wells receive the same treatment during the wash step. If some are washed less than others, this can translate to poor precision. It is important that the plate is washed thoroughly. If plate washing is troublesome, a squirt bottle can be filled with diluted Wash Buffer and all of the wells completely filled from this. The plate contents can be dumped into the sink and shaken to remove excess buffer. This should be repeated for the number of times recommended in the instruction manual. It is important to remember that adding too little Wash Buffer can result in high background, while adding too much is not a problem. The contents of the wells should be aspirated and the plate tapped dry on lint-free paper towels. Plate tapping should consist of a few taps since excessive tapping may lead to plate drying and inconsistent assay.

Were the wells aspirated sufficiently after the wash steps?

It is very important that as little Wash Buffer as possible remains in the wells after aspiration. Residual buffer can cause dilution of subsequent reagents. After the last wash step, it is a good idea to hit the plate several times over a piece of paper toweling to remove excess buffer.

How were reagents pipetted into wells?

In order to eliminate precision error, customers need to remember to pre-rinse all pipet tips used in the assay. We usually recommend that the customer draw up the liquid into the tip and aspirate it three times prior to addition into the well. Regular pipet calibration and maintenance is also essential to ensure that the tips fit properly and that the correct volumes are dispensed. Be sure reagents are not splashed between wells or outside of the wells during pipetting (especially if using repeater pipets).

High Background

How was the plate washed?

It is important that the plate is washed thoroughly. If plate washing is troublesome, a squirt bottle can be filled with diluted Wash Buffer and all of the wells completely filled from this. The plate contents can be dumped into the sink and shaken to remove excess buffer. This should be repeated for the number of times recommended in the instruction manual. It is important to remember that adding too little Wash Buffer can result in high background, while adding too much is not a problem. The contents of the wells should be aspirated and the plate tapped dry on lint-free paper towels.

What were the incubation times and temperatures?

If the plate was incubated for too long or at a higher than recommended temperature, high background could result

Edge Effects

Where was the plate incubated?
Often times the conditions for ambient incubations can be less than ideal. If there is a draft in the area or the plate is incubated on a cold lab bench, this can lead to uneven color development.

If multiple plates were run, were they stacked on top of each other during incubation?
Multiple plates should only be incubated in a single layer. This will assure that no area of the plate is at a different temperature than any other.

If a non-ambient incubation was required, was the plate properly sealed?
Making sure that the plate sealer is tightly covering all of the wells will help to discourage uneven evaporation of the well contents, or condensation for colder incubation conditions.

Drift

Were reagents brought to room temperature prior to use?
If the reagents are not at a constant temperature prior to their addition into the wells, the results from one side of the plate to the other can differ depending on the temperatures at addition.

Was the set-up of the assay interrupted?
If the assay is interrupted at any point during the addition of reagents, it is possible that differing results will be seen before the interruption versus after. The wells that had reagents added before the interruption will have been incubating for longer than those after.

ASSAY LAYOUT

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