

Metabolic Assays ...and more

Akrivis Bio

A hummingbird with a brown and white chest and iridescent wings is hovering near a cluster of bright red and purple flowers. The background is a soft-focus green, suggesting a natural outdoor setting.

CANCER
CARDIOVASCULAR DISEASE
CELL-BASED ASSAYS
DIABETES
EPIGENETICS
IMMUNOLOGY
INFECTIOUS DISEASE
KIDNEY DISEASE
LIVER DISEASE
NEUROSCIENCE
OBESITY
OXIDATIVE STRESS
SAMPLE PREPARATION

Order Instructions & Warranty Information

TO PLACE AN ORDER, PLEASE PROVIDE THE FOLLOWING INFORMATION:

- 1) Shipping and billing addresses
- 2) Purchase order number
- 3) Your name and telephone number
- 4) Product number, package size, description and quantity

ORDER METHOD:

Phone: 1-408-739-931
Email: contact@akrivosbio.com
Internet: www.akrivosbio.com
Mail to: AkrivosBio Inc. 48511 Warm Springs Blvd. Ste 213, Fremont, CA 94539 USA

SHIPPING:

Orders received by 12 PM (PST) Monday-Thursday are routinely shipped the same day and delivered the following business day. Orders received after 12 PM Thursday will be shipped the following Monday. International orders are shipped out on Mondays and Fridays.

CREDIT CARDS:

For your convenience, AkrivosBio accepts Visa and MasterCard for purchases. Credit card approval must be obtained prior to shipment.

PRICES:

For pricing, please log on to www.akrivosbio.com or call 1-408-739-9315. Prices are subject to change without notice.

TERMS:

Net 30 days in U.S. dollars after credit approval. Payment in advance of shipment otherwise.

RESTOCKING FEE:

In the case of purchasing error or change in an order after the order has been shipped, AkrivosBio will charge a 20% restocking fee. The restocking fee applies to unopened, properly stored items that are authorized for return. All shipping costs are to be paid by the buyer.

WARRANTY:

AkrivosBio's products are warranted to meet our product specifications in effect at the time of shipment. Notice of nonconforming products must be made to AkrivosBio Inc. within 30 days of receipt of the product. This product warranty limits AkrivosBio's liability to the replacement of the product only. In no event, shall AkrivosBio be liable for any kind of loss or damage resulting from the use of AkrivosBio's products.

Note: If the above terms are not acceptable to you, promptly return any products in the package in which they were received. Failure to promptly return the product or any use of the product constitutes acceptance of the above terms.

SAFE USE OF PRODUCTS:

AkrivosBio recommends that the buyer and other persons using the products follow Good Laboratory Practice guidelines. AkrivosBio disclaims any and all responsibility for any injury or damage which may be caused by the failure of the buyer or any other persons to follow said guidelines. It is the user's responsibility to determine for himself or herself the suitability of any materials and/or procedure for a specific purpose and to adopt such safety precautions as may be necessary.

RESEARCH USE ONLY:

All products described in this catalog and on our web site are for research purposes only, not to be used for diagnostic or therapeutic purposes. They must not be used with human subjects.

ONLINE PURCHASE SECURITY:

AkrivosBio, Inc. (www.akrivosbio.com) guarantees that every transaction you make in our secure online store is 100% safe and all of your information is kept confidential. All orders are processed on a secure server. All sensitive information is sent through our protected servers.

When our registration/order form asks you to enter sensitive information, such as credit card number and/or billing address, that information is encrypted and protected with Secure Socket Layer (SSL) encryption software. While on a secure page, such as our order form, most browsers will display a lock or key icon on the status bar at the bottom indicating that the page is secure. Also, in the address window "http" changes to "https" on secure pages.

We maintain all of our servers behind a firewall. Firewalls help protect the information stored on servers from unauthorized computers.

INTERNATIONAL ORDERING INFORMATION:

To order AkrivosBio's products outside the United States and Canada, please contact your local distributor (please visit our website for our distributor listing). If your country does not have a distributor, please contact AkrivosBio directly.



We are limited only by our collective imagination

Abbreviations

Kit Name

(C)= Colorimetric | (F) = Fluorometric | (FC) = Flow Cytometry | (CB) = Cell Based

Platform

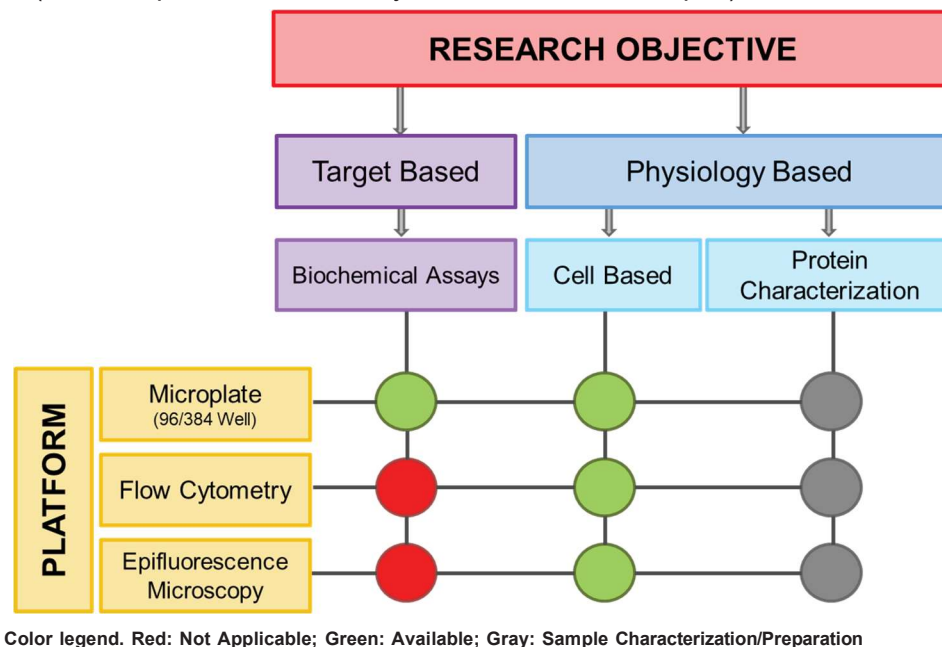
FM = Fluorescence Microscopy | IHC = Immunohistochemistry | M = Microplate | NA = Not Applicable | PCR = Polymerase Chain Reaction | CB = Cell-Based |
CM = Confocal Microscopy | SB = Southern Blotting | P = Protein |
SDS = SDS-PAGE | WB = Western Bolt | EIA = ELISA | FC = Flow Cytometry |
PD = Plasmids

Sample Type

U = Urine | S = Serum | P = Plasma | CL = Cell Lysate | TL = Tissue Lysate | PP = Protein Preparation | CB = Intact Cells | NA = Not Applicable | O = Others | Ab = Antibody

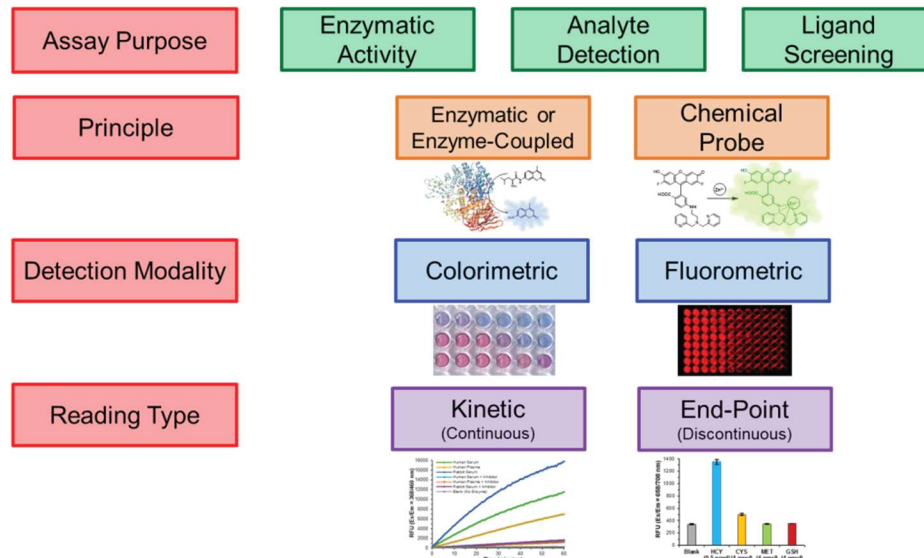
AkrivisBio Assay Products

AkrivisBio offers a comprehensive portfolio of *in vitro* bioassays that are useful for research in numerous disease related areas like cancer, diabetes, obesity, cardiovascular disease, liver disease, kidney disease, Alzheimer's disease and infectious diseases, as well as research areas such as intermediary metabolism, neuroscience, epigenetics, oxidative stress, stem cells, sample preparation and lipid and protein extraction. Our high-quality bioassays offer specificity, sensitivity, reproducibility and affordability. Our mission is to deliver innovative products based on cutting edge research to meet your scientific needs. AkrivisBio bioassays can be used with some of the most popular and common research instrumentation (i.e. microplate reader, flow cytometer, and microscopes).



96-Well Microplate Assay Overview

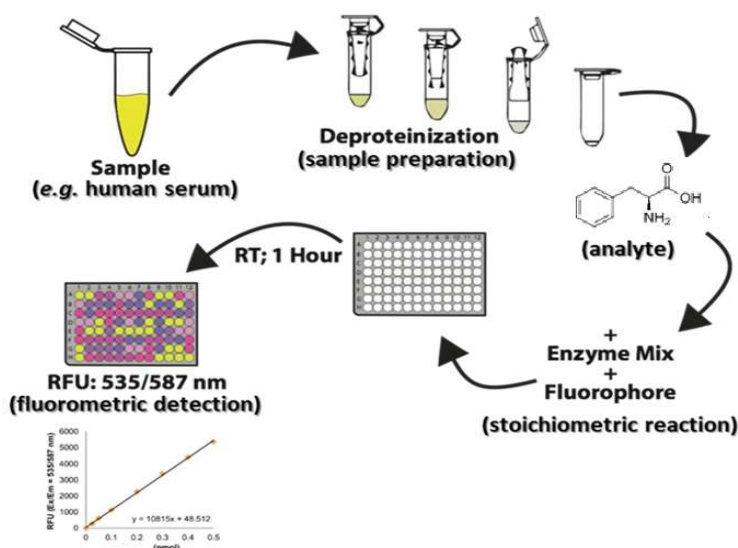
AkrivisBio's extensive microplate-based assay portfolio offers numerous products that can be used for the detection/quantification of enzyme activity, measurement of specific analytes in biological samples and for high-throughput inhibitor screening. Our products utilize combinations of proprietary enzymes and chemical probes, carefully engineered and characterized for the detection of relevant targets. Our products have been tested and validated using real biological samples (blood, serum, plasma, urine, saliva, cell and tissue lysates and foodstuffs), ensuring that analytes are detectable in real-world biological matrices.



96-Well Microplate Assay Principles

Many of our most popular assay kits utilize custom-engineered enzymes as a detection system. Enzymatic systems offer superior sensitivity, specificity and accuracy when compared to other detection methods. Our assays do not involve laborious, time consuming sample preparation protocols. In many cases, direct analyte measurement can be performed with no required sample preparation steps. Our products are designed to have a long shelf-life and do not require expensive instruments, trained personnel, extensive washes or long incubation times. A temperature-controlled microplate reader, capable of measuring absorbance and fluorescence over time is the only instrument required to run and perform our user-friendly assay kits.

Phenylalanine Assay Kit (MA-0147) Principle



Microplate Assays: Probe Selection

Sample application is perhaps the most important factor when selecting the best product for your research needs. This will determine the necessary assay sensitivity and therefore the preferred detection method. Our most popular products utilize stable chromophores and fluorophores that show strong signals over time. Resazurin is one of the most sensitive probes in the market. It can detect less than 20 picomoles of analyte per analyzed sample well.

Probe Name	Detection Modality	Linear Range (nmol)	Detection Spectra	Microplate Type
WST	Colorimetric	0-10	460 nm	Clear
ADHP	Colorimetric	0-10	570 nm	Clear
	Fluorometric	0-1	535/587 nm	Black/White*
Resazurin	Fluorometric	0-0.2	535/587 nm	White
Others	Colorimetric	0-100	(varies)	Clear
	Fluorometric	0-0.5	(varies)	Black/White*

*White plate recommended for amplifying fluorescence signal, black plate for minimizing background and equipment noise.

Metabolism Assay Highlights

Metabolism plays a key role in various areas such as physiology, cell biology, and medicine. Research in metabolism is dramatically increased by the realization that many common human diseases such as cancer, diabetes, obesity, hypoglycemia, hypolipidemia, phenylketonuria, neurodegeneration, etc. are due to perturbations in metabolic pathways. Understanding the metabolic variations and possible outliers is thus a crucial aspect of disease-oriented research.

On the other hand, reactive oxygen species (ROS), produced endogenously as a result of normal cellular metabolic functions or from external sources, poses a significant threat to cells since exposure to ROS can result in severe damage to DNA, protein, and lipids. Identifying specific forms of oxidative damage is often the focal point of interest in different types of cancers and various neurological diseases. Antioxidant defenses to minimize fluctuations in ROS are critical to cell survival and dictate approaches to disease treatments to reduce risk of cancer or age-related functional deterioration.

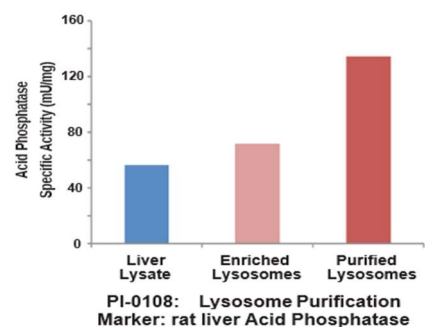
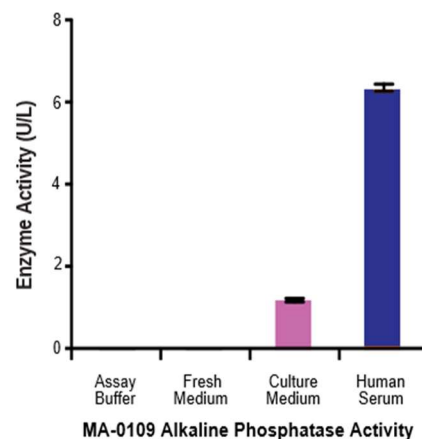
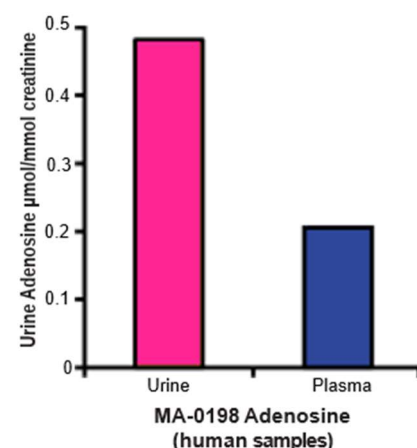
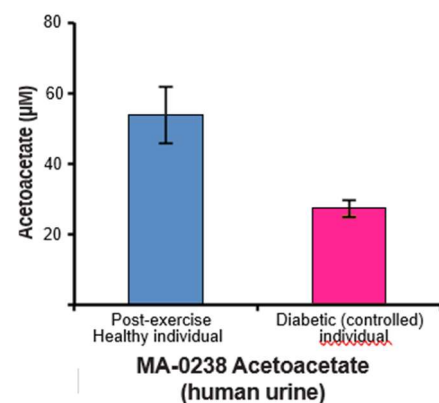
Nevertheless, biological processes are better characterized by studying cellular interaction due to exogenous factors. Preclinical and Clinical Research rely on assays that study different aspects of cellular behavior (progression through the cell cycle, migration, invasion) and measure the content of key building blocks in the cell are commonly used to monitor the health of cells in culture and their response to various stimuli (migration inducers, cell cycle arrest drugs, cholesterol transport inhibitors etc.).

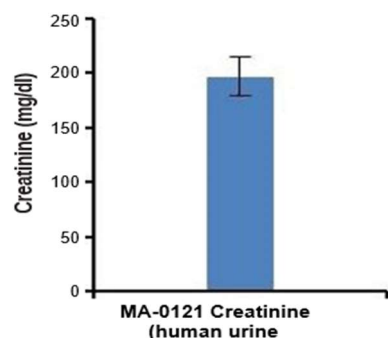
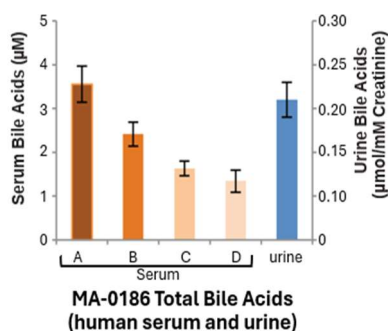
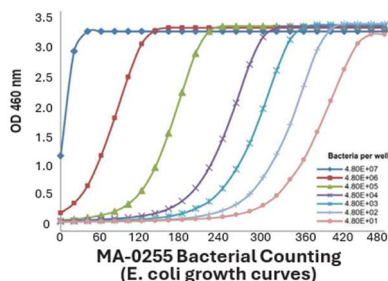
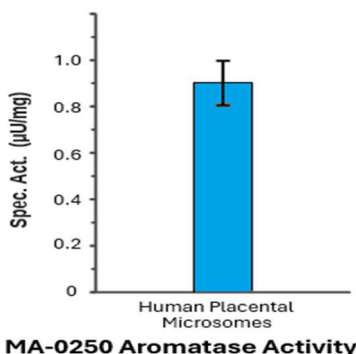
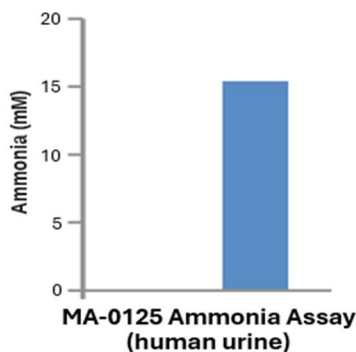
AkrivisBio is proud to offer the broadest Metabolism Assay portfolio ranging from the detection of enzymatic activity, metabolites such as carbohydrates, lipids, amino acids, inorganic ions, serum components, coenzymes & cofactors to oxidative stress, glycolysis pathway, and intermediary metabolism. Also, we offer a respectable selection of assays, antioxidants, inhibitors/activators of key ROS players and an expanding selection of assays to study some fundamental processes governing cellular biology.

Here, we present a collection of popular Metabolism Assays with useful technical information that can facilitate your Metabolism-related research. Detection method, platform, sample applications and assay sensitivity (for selected cases) have been included in this brochure. The featured brochure highlights unique assay kits targeting existing and emerging areas of research and drug discovery:

- Aging Research
- Alcohol Metabolism
- Alzheimer's Disease
- Amino Acids Metabolism
- Ammonia Metabolism
- Apoptosis
- ATP/ADP Metabolism
- Cancer and Metastasis
- Cancer Cell Metabolism
- Carbohydrates Metabolism
- Cardiovascular Disease
- Cell Damage & Oxidative Stress
- Cell Fractionation & Metabolism
- Cholesterol Related Metabolism
- Creatinine & Kidney Malfunction
- Diabetes Related Assays
- Drug Metabolism
- Enzymes & Cofactors Assays
- Epigenetics Products
- Fatty Acids Metabolism
- Glucose Metabolism
- Glycogen Metabolism
- Hydroxyproline & Bone Diseases
- Infectious Diseases
- Iron Metabolism
- Kidney Diseases
- Lactate & Brain Metabolism
- Lactate Dehydrogenase & Cancer
- Lipid Peroxidation & Metabolism
- Liver Disease
- Metabolic Syndrome
- Mineral & Ion Metabolism
- Mitochondria Metabolism
- Multidrug Resistance Research
- NAD/NADH & Redox Metabolism
- Neuroscience Products
- Obesity Related Assays
- Phosphate & Phosphatase Assays
- Sample Preparation Kits
- Transaminase & Liver Diseases
- Triglyceride Metabolism
- Urea Excretion & Organ Disorder

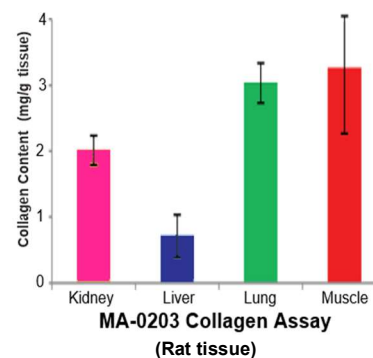
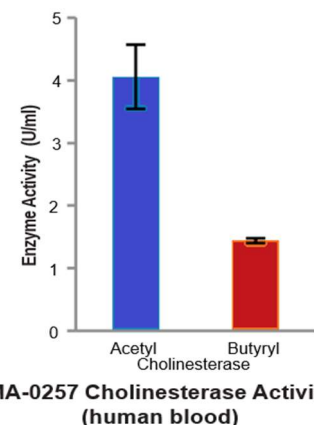
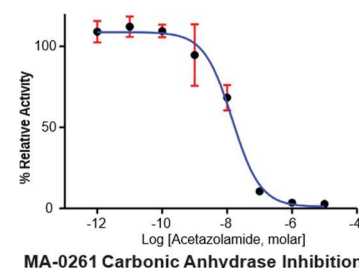
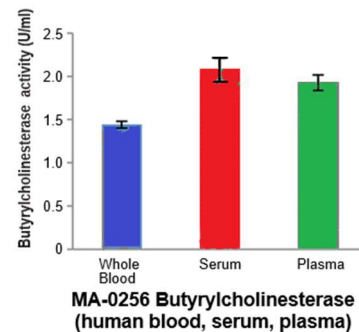
Kit Name (A-Z)	Cat. No.	Platform	Sample Type
A			
Acetate Assay (C)	MA-0130	M	S, P, TL, CL, O
Acetoacetate Assay (C)	MA-0238	M	S, P, U, O
Acetylcholinesterase Activity Assay (C/F)	MA-0239	M	S, P, TL, CL
Acetyl-CoA Assay (F)	MA-0127	M	TL, O
Acid Phosphatase Activity Assay (C)	MA-0240	M	S, P, U, CL
Acid Phosphatase Activity Assay (F)	MA-0241	M	S, P, U, CL
Aconitase Activity Assay (C)	MA-0235	M	CL, TL
Adenosine Assay (C/F)	MA-0198	M	P, U
Adipogenesis Assay (C/F)	MA-0199	M	CL
ADP Assay (C)	MA-0242	M	TL, CL
ADP Assay (C/F)	MA-0243	M	TL, CL
ADP Assay Kit (F)	MA-0244	M	TL, CL
Alanine Aminotransferase Activity Assay (C/F)	MA-0116	M	TL, CL, S
Alanine Assay (C/F)	MA-0245	M	CL, TL, S
Albumin (Albuminuria) Assay (F)	MA-0246	M	U, O
Albumin (BCG) Assay (C)	MA-0247	M	S
Alcohol Dehydrogenase Activity Assay (C)	MA-0162	M	TL, CL
Aldehyde Dehydrogenase Activity Assay	MA-0169	M	TL, CL
Aldehyde Dehydrogenase Activity Assay II (F)	MA-0248	M	S, TL, CL
Aldolase Activity Assay (C)	MA-0176	M	TL, CL, S, P
Aldose Reductase Inhibitor Screening Kit (C)	MA-0211	M	TL, CL
Alkaline Phosphatase Activity Assay (C)	MA-0109	M	S, P, CL
Alkaline Phosphatase Activity Assay (F)	MA-0226	M	S, P, U, CL, O
Alkaline Phosphatase Staining Kit	COS-0105	M	C
Alpha-Ketoglutarate Assay (C/F)	MA-0141	M	TL
Alpha-Ketoglutarate Dehydrogenase Activity Assay (C)	MA-0249	M	TL, CL
L-Amino Acid Assay (C/F)	MA-0231	M	TL, CL, S
Ammonia Assay (C/F)	MA-0125	M	TL, CL
Ammonia Assay II (C)	MA-0140	M	O
Amylase Activity Assay (C)	MA-0138	M	S, U, TL
Angiotensin I Converting Enzyme Inhibitor Screening Kit (C)	MA-0188	M	NA
Angiotensin II Converting Enzyme Activity Assay (F)	MA-0158	M	TL, S, P, CL
Arginase Activity Assay (C)	MA-0210	M	TL, CL
L-Arginine Assay (C)	MA-0185	M	TL, CL, S, P, O
Aromatase (CYP19A) Activity Assay (F)	MA-0250	M	TL, CL, O
Ascorbic Acid Assay II (FRASC) (C)	MA-0252	M	TL, CL
Ascorbic Acid Assay (C/F)	MA-0251	M	TL, CL
Asparaginase Activity Assay (C/F)	MA-0159	M	S, TL, CL
Aspartate Aminotransferase Activity Assay (C)	MA-0120	M	TL, S
Aspartate Assay (C/F)	MA-0253	M	S, TL, CL
ATP Assay (C/F)	MA-0113	M	TL, CL
ATPase Activity Assay (C)	MA-0254	M	TL, CL
B			
Bacterial Cell Counting Assay (500 wells) (C)	MA-0255	M	O
Bacterial Cell Counting Assay (2500 wells) (C)	MA-0255	M	O
Bacterial Genomic DNA Isolation Kit	PI-0109	NA	O

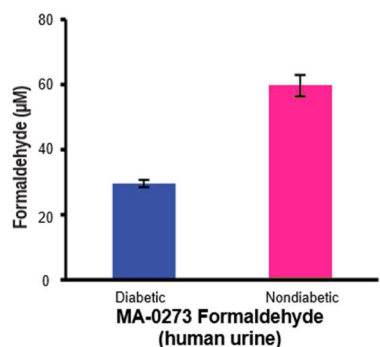
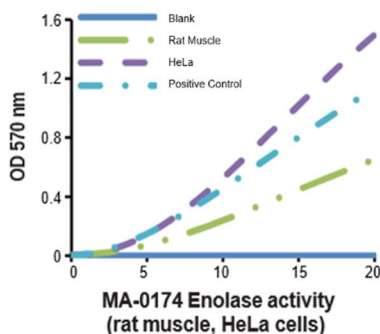
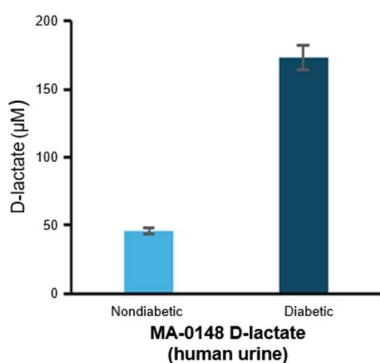
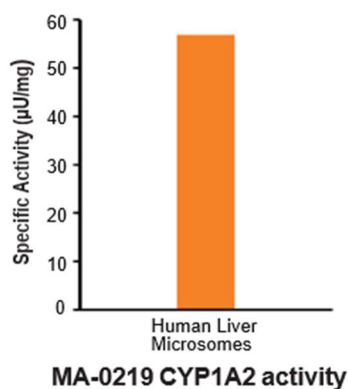




Kit Name (A-Z)	Cat. No.	Platform	Sample Type
Total Bile Acids (TBA) Assay Kit (C)	MA-0186	M	S, P, U, O
Branched Chain Amino Acid (Leu/Ile/Val) Assay (C)	MA-0157	M	TL, CL, S
Butyrylcholinesterase Activity Assay (C)	MA-0256	M	S, P, TL
C			
Calcium Assay (C)	MA-0104	M	S, U
Total Carbohydrate Assay (C)	MA-0144	M	CL, TL, O
Carbonic Anhydrase Activity Assay (C)	MA-0187	M	O, S
Carbonic Anhydrase inhibitor Screening Kit	MA-0261	M	PP
Carrez Clarification Reagent	PI-0110	NA	O
Catalase Activity Assay (C/F)	MA-0143	M	TL, CL
L-Carnitine Assay (C/F)	MA-0161	M	CL, TL
Caspase-1 Activity Assay	MA-0194	M	CL
Caspase-3 Activity Assay (C)	MA-0191	M	CL
Caspase-3 Activity Assay II (F)	MA-0218	M	CL
Total Cholesterol and Cholesterol Ester Assay (C/F)	MA-0119	M	TL, CL, S
HDL/LDL Cholesterol and Cholesteryl Ester Assay (C/F)	MA-0124	M	S, TL, CL
Choline/Acetylcholine Assay (C/F)	MA-0152	M	S, P, CL, O
Cholesterol Staining Kit (Cell-based) (F)	MA-0167	M, FM	CB
CaspACTIVE Active Caspase-9 Staining Kit	COS-0107	FM, FC	CB, O
Cathepsin B Activity Assay (F)	MA-0168	M	TL, CL
Cathepsin D Activity Assay (F)	MA-0154	M	TL, CL
Ready-to-use Cell Proliferation Reagent, WST-1 (C)	CPT-0106	CB	CB
Rapid Cell Proliferation Assay 500 wells (C)	CPT-0105	CB	CB
Rapid Cell Proliferation Assay 2500 wells (C)	CPT-0105	CB	CB
Choline Kinase Activity Assay (F)	MA-0200	M	TL, CL
Cholinesterase Activity Assay (C)	MA-0257	M	O
Chymotrypsin Activity Assay (F)	MA-0181	M	TL, CL, P
Citrate Assay (C/F)	MA-0139	M	TL, CL
Citrate Synthase Activity Assay (C)	MA-0234	M	TL, CL
Cobalt Assay (C)	MA-0258	M	O
Coenzyme A Assay (C/F)	MA-0236	M	CL, TL
Total Collagen Assay (Perchlorate-Free) (C)	MA-0203	M	TL, S, U, O
Collagenase Activity Assay (C)	MA-0195	M	O
Creatine Assay (C/F)	MA-0259	M	S, P, CL
Creatine Kinase Activity Assay (C)	MA-0171	M	S, P, TL, CL
Creatinine Assay (C/F)	MA-0121	M	S, U, O
Crystal Violet Cell Cytotoxicity Assay (C)	CPT-0102	CB	CB
Cyclooxygenase-1 (COX-1) Inhibitor Screening Kit (F)	MA-0215	M	PP
Cyclooxygenase-1 (COX-2) Inhibitor Screening Kit (F)	MA-0212	M	PP
Cytochrome Oxidase Activity Assay (C)	MA-0260	M	CL, TL, O
Cytochrome P450 1A2 (CYP1A2) Activity Assay Kit (F)	MA-0219	M	TL, CL, PP
Cytochrome P450 2C19 (CYP2C19) Activity Assay Kit (F)	MA-0220	M	TL, CL, PP
Cytochrome P450 2C9 (CYP2C9) Activity Assay Kit (F)	MA-0237	M	TL, CL, PP
Cytochrome P450 2D6 (CYP2D6) Activity Assay Kit (F)	MA-0221	M	TL, CL, PP
Cytochrome P450 3A4 (CYP3A4) Activity Assay Kit (F)	MA-0213	M	TL, CL, PP

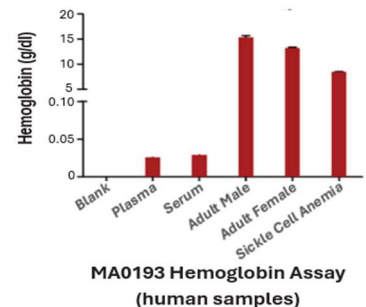
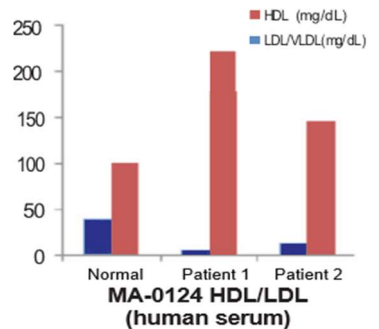
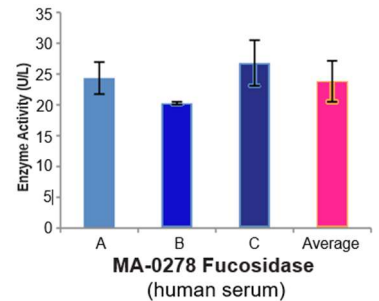
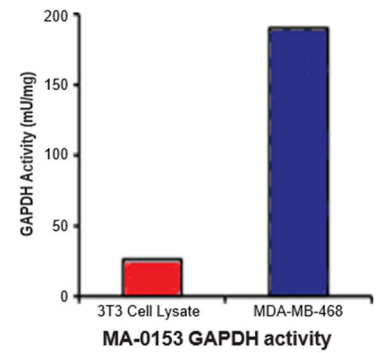
Kit Name (A-Z)	Cat. No.	Platform	Sample Type
D			
Deproteinizing Sample Preparation Kit (PCA)	PI-0103	M	S, P, U, CL, O
Deproteinizing Sample Preparation Kit (TCA)	PI-0102	M	S, P, U, CL, O
Diamine Oxidase Activity Assay (F)	MA-0262	M	CL, TL
3T3 Differentiation Kit	MA-0263	M	CB
Dihydrofolate Reductase Activity Assay (C)	MA-0264	M	TL, CL, PP
Dihydrofolate Reductase Inhibitor Screening Kit (C)	MA-0265	M	TL, CL, PP
Dihydroxyacetone Phosphate Assay (F)	MA-0266	M	PP, NA
D-Lactate Assay (C)	MA-0148	M	TL, CL, S, P
D-Lactate Assay (F)	MA-0267	M	S, P, U, TL, CL, O
DPP4 Activity Assay (F)	MA-0268	M	CL, TL, S
Rapid Apoptotic DNA Ladder Detection	MA-0196	SDS	CL
DS-DNA Assay (F)	MA-0269	M	TL, CL
E			
Elastin (C)	MA-0192	M	TL, CL
Endothelin Converting Enzyme 1 Activity Assay (F)	MA-0369	M	TL, CL, PP
Enolase Activity Assay (C/F)	MA-0174	M	TL, CL
Enteropeptidase/Enterokinase Activity Assay (F)	MA-0270	M	PP
Ethanol Assay (C/F)	MA-0131	M	O
F			
Factor VIIIa Activity Assay (F)	MA-0208	M	PP, S, P
FAD Assay (C/F)	MA-0271	M	S, CL, TL
Free Fatty Acid Assay (C/F)	MA-0111	M	TL, CL
Ferric Reducing Antioxidant Power (FRAP) Assay (C)	MA-0272	M	S, O
Formate Assay (C)	MA-0274	M	TL, CL
Fructose Assay (F)	MA-0275	M	TL, CL
Fructose-6-Phosphate Assay (F)	MA-0277	M	TL, CL, O
α -L-Fucosidase Assay (C)	MA-0278	M	S, P, O
Fumarase Activity Assay (C)	MA-0279	M	TL, CL, O
Fumarate Assay (C)	MA-0233	M	TL, CL
G			
Galactose and Lactose Assay (C/F)	MA-0280	M	O
Galactose Assay (C/F)	MA-0281	M	O
Alpha-Galactosidase Activity Assay (F)	MA-0142	M	TL, CL, S, P, O
Beta Galactosidase Activity Assay (F)	MA-0282	M	TL, CL, O
Beta-Galactosidase Staining Kit (C)	COS-0104	CM	CB
Gamma Glutamyl Transferase Activity Assay (C)	MA-0283	M	TL, CL, S
Gamma Glutamyl Transferase Activity Assay (F)	MA-0284	M	TL, CL, S
GAPDH Activity Assay (C)	MA-0153	M	TL, CL
Genomic DNA (Mammalian) Isolation Kit	MA-0285	PCR/SB	TL, CL
Glucose / Sucrose Assay (C/F)	MA-0180	M	S, P, O
Glucose Assay (C/F)	MA-0122	M	S, P, U, O
Glucose Dehydrogenase Activity Assay (C)	MA-0286	M	TL, CL, S
Glucose Oxidase Activity Assay (C/F)	MA-0287	M	CL, S
Glucose-1-Phosphate Assay (C)	MA-0172	M	TL, CL, O
Glucose-6-Phosphate Assay (C)	MA-0288	M	TL, CL, O
Glucose-6-Phosphate Assay (F)	MA-0289	M	TL, CL, O

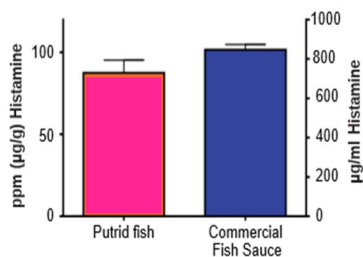




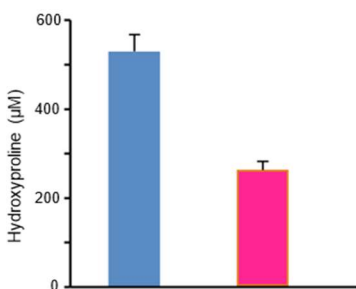
Kit Name (A-Z)	Cat. No.	Platform	Sample Type
Glucose-6-Phosphate Dehydrogenase Activity Assay (F)	MA-0224	M	TL, CL, O
Glucose-6-Phosphate Dehydrogenase Activity Assay (C)	MA-0291	M	TL, CL, O
β-Glucuronidase Activity Assay Kit (F)	MA-0290	M	TL, PP
Glutamate Assay (C)	MA-0133	M	TL, CL, S
Glutamate Dehydrogenase Activity Assay (C)	MA-0293	M	TL, CL, S
Glutamine Assay (C)	MA-0164	M	U, TL, CL
Cell-Based Glutathione Detection Kit (F)	MA-0294	CB	CB
Glutathione Assay Kit (GSH/GSSG/Total) (F)	MA-0227	M	TL, CL, S
Glutathione Assay (DTNB) (C)	MA-0295	M	CL, TL, P, O
Total Glutathione Assay (Monochlorobimane) (F)	MA-0201	M	CL, TL
Total Glutathione Assay (GST) (F)	MA-0296	M	CL, TL
Glutathione Peroxidase Activity Assay (C)	MA-0137	M	CL, TL
Glutathione Reductase Activity Assay (C)	MA-0297	M	CL, TL
Glycerol Assay(C/F)	MA-0298	M	S, P, TL, CL, O
Glycerol-3-Phosphate Assay (C)	MA-0299	M	CL, TL
Glycerol-3-Phosphate DH Activity Assay (C)	MA-0300	M	CL, TL
Glycogen Assay Kit (C)	MA-0136	M	CL, TL
Glycogen Assay (C/F)	MA-0112	M	CL, TL
GST Activity Assay (C)	MA-0301	M	CL, TL, P, O
GST Activity Assay (F)	MA-0302	M	CL, TL, P, O
H			
HDL and LDL/VLDL Cholesterol Assay (C/F)	MA-0124	M	CL
Heme Assay (C)	MA-0190	M	O
Hemoglobin Assay (C)	MA-0193	M	S, P, O
Hexokinase Assay (C)	MA-0204	M	S, TL, CL
Histamine Assay (C)	MA-0303	M	O
Hydrogen Peroxide Assay (C/F)	MA-0145	M	CL, S, P, U, O
β-Hydroxybutyrate Assay (C)	MA-0132	M	S, O
β-Hydroxybutyrate Assay (F)	MA-0304	M	S, P, U, O
Hydroxyproline Assay (C) (Perchlorate-Free) (C)	MA-0101	M	TL, S, U
I			
Inosine Assay (F)	MA-0173	M	TL, CL
Inulin Assay (F)	MA-0197	M	O
Invertase Activity Assay (C/F)	MA-0305	M	O, PP
Iodide Assay	MA-0228	M	CL, S, P, U, O
Iron Assay (C)	MA-0103	M	CL, TL O
Isocitrate Assay (C)	MA-0306	M	CL, TL O
Isocitrate Dehydrogenase Activity Assay (C)	MA-0307	M	CL, TL, S
Isopropanol Dehydrogenase Activity Assay (C)	MA-0308	M	TL, O
J-K			
Plasma Kallikrein Activity Assay (C)	MA-0309	M	P, PP
L			
Lactate Assay II (C)	MA-0123	M	CL, S
Lactate Assay (C/F)	MA-0115	M	CL, O
Lactate Dehydrogenase Activity Assay (C)	MA-0117	M	TL, CL

Kit Name (A-Z)	Cat. No.	Platform	Sample Type
Lactate Dehydrogenase Based Cell Cytotoxicity (C)	CPT-0101	M	CB
D-Lactate Assay (C)	MA-0148	M	S, P, CL, TL
Lactose Assay (C/F)	MA-0232	M	O
Leucine Aminopeptidase Activity Assay (F)	MA-0310	M	CL, TL
Lipase Activity Assay (C/F)	MA-0149	M	TL, CL, S
Lipase Activity Assay Kit II (C)	MA-0311	M	TL, CL, S
Lipase Activity Assay Kit III (F)	MA-0312	M	TL, CL, S
Lipid (Oil Red O) Staining Kit (C)	COS-0101	CM	CB
Lipid Extraction Kit (Chloroform Free)	PI-0101	CM	S, P, CL, TL
Lipid Peroxidation (MDA) Assay (C/F)	MA-0102	M	TL, CL, P, S
Lipolysis (3T3-L1) Assay (C/F)	MA-0189	M	CL
Live-Dead Cell Staining Kit (F)	COS-0103	CM	CB
Lysosome Purification Kit	PI-0108	WB/EIA	CL, TL
Lysosomal Cytotoxicity (Dual Staining - Cell-Based) (F)	COS-0106	CB	CB
Lysyl Oxidase Activity Assay (F)	MA-0313	M	PP, O
M			
Magnesium Assay (C)	MA-0314	M	TL, CL, S, U
Malate Assay (C)	MA-0315	M	TL, O
Malate Dehydrogenase Activity Assay (C)	MA-0316	M	TL, CL
Maltose/Glucose Assay (C/F)	MA-0317	M	S, P, O
Maltose Assay (C/F)	MA-0318	M	S, P, O
Mammalian Cell Extraction Kit	PI-0113	WB/M	TL, CL
Mannitol Assay (C)	MA-0319	M	U, S, P, O
Membrane Protein Extraction Kit	PI-0104	NA	CL, TL
Methanol Assay (C)	MA-0206	M	S, P, U, O
Microsome Isolation Kit	PI-0114	WB	TL, CL
Mitochondria Isolation Kit for Tissue & Cultured Cells	PI-0115	NA	TL, CL
Mitochondria/Cytosol Fractionation Kit (100 samples)	PI-0116	WB/EIA	TL, CL
Mitochondria/Cytosol Fractionation Kit (25 samples)	PI-0116	WB/EIA	TL, CL
Mitochondrial Complex I Activity Assay (C)	MA-0320	M	O
Mitochondrial Complex III Activity Assay (C)	MA-0321	M	O
Mitochondrial DNA Isolation Kit	PI-0105	PCR/SB	O
MTS Cell Proliferation Assay (C) (2500 wells)	CPT-0104	CB	CB
MTT Cell Proliferation Assay (C) (1000 wells)	CPT-0103	CB	CB
Myeloperoxidase (MPO) Activity Assay (C)	MA-0135	M	TL, CL, O
Myeloperoxidase (MPO) Peroxidation Activity Assay (C/F)	MA-0322	M	TL, CL, O
N			
NAD/NADH Assay (C)	MA-0114	M	TL, CL, S, U
NADH Assay (F)	MA-0323	M	TL, CL, O
NADP/NADPH Assay (C)	MA-0126	M	TL, CL
NADPH Assay (F)	MA-0324	M	TL, CL
Neuraminidase Activity Assay (F)	MA-0325	M	TL, CL, S
Neutral Red Cell Cytotoxicity Assay Kit (C)	CPT-0107	CB	CB
Neutrophil Elastase Activity Assay (F)	MA-0156	M	PP, P, O

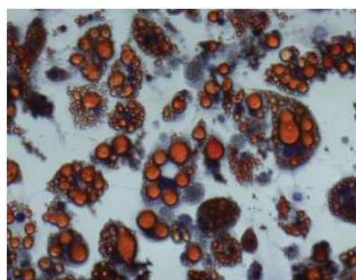




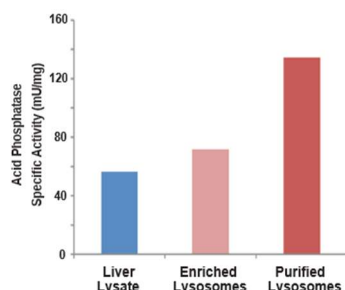
MA-0303 Histamine (fish samples)



MA-0101 Hydroxyproline



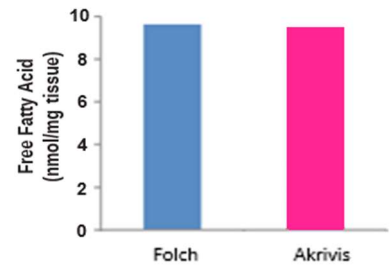
COS-0101 Oil Red O Lipid Stain (3T3 cells, differentiated)



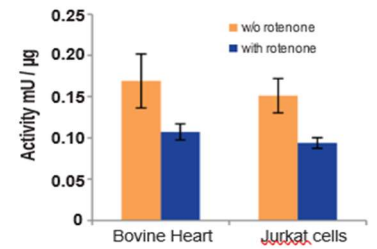
PI-0108: Lysosome Purification Marker: rat liver Acid Phosphatase

Kit Name (A-Z)	Cat. No.	Platform	Sample Type
Nickel Assay (C)	MA-0170	M	O
Nitric Oxide Assay (C)	MA-0205	M	S, U, CL
Nitric Oxide Assay (F)	MA-0326	M	S, U, CL
Nitric Oxide Synthase Activity Assay (C)	MA-0327	M	PP, TL
Nuclear/Cytosol Fractionation Kit	PI-0107	WB/EIA	CL
O			
Oxalate Assay (C)	MA-0222	M	TL, O
Oxalate Decarboxylase Activity Assay (C)	MA-0328	M	O
Oxaloacetate Assay (C/F)	MA-0329	M	TL, CL
P			
p300 Inhibitor Screening Assay Kit (F)	MA-0146	M	NA
PAH (p-Aminohippuric Acid) Assay (C)	MA-0230	M	P, U
Paraoxonase 1 Activity Assay (F)	MA-0331	M	P, S, PP
PEP Assay (C/F)	MA-0332	M	TL, O
Peroxidase Activity Assay (C/F)	MA-0333	M	CL, S, P, U, O
Phenylalanine Assay (F)	MA-0147	M	TL, CL, S, O
Phosphate Assay (C)	MA-0105	M	S, P
Phosphatidylcholine Assay (C/F)	MA-0334	M	S, P
Phosphodiesterase Activity Assay (F)	MA-0160	M	CL, O
Phosphoenolpyruvate Carboxylase Activity Assay (C)	MA-0335	M	CL, O
Phosphofructokinase (PFK) Activity Assay (C)	MA-0165	M	TL, CL
Phosphoglucomutase Assay (C)	MA-0336	M	TL, CL
6-Phosphogluconate Dehydrogenase Activity Assay (C)	MA-0337	M	TL, CL
6-Phosphogluconic Acid Assay (C)	MA-0338	M	TL, CL
Phosphoglucose Isomerase Activity Assay (C)	MA-0339	M	TL, CL
2-Phosphoglycerate Assay (C/F)	MA-0340	M	TL, CL
Phosphoglycerate Mutase Activity Assay (C/F)	MA-0209	M	TL, CL
Phospholipid Assay (C/F)	MA-0217	M	TL, CL, O
Phospholipase A2 Activity Assay (F)	MA-0341	M	TL, CL, PP
Phospholipase D Activity Assay (C)	MA-0342	M	TL, CL
Plasma Membrane Isolation Kit	PI-0118	WB	CB
Plasmin Activity Assay (F)	MA-0177	M	P
Total Polyamine Assay (F)	MA-0214	M	TI, O
Prostate Specific Antigen (PSA) Activity Assay (F)	MA-0343	M	PP, O
Proteasome Activity Assay (F)	MA-0344	M	CL
Protein Carbonyl Content Assay (C)	MA-0150	M	O
Protein Quantitation Kit (BCA)	MA-0292	NA	O
Purine Nucleoside Phosphorylase Activity Assay (C)	MA-0223	M	PP, CL, TL
Purine Nucleoside Phosphorylase Activity Assay (F)	MA-0225	M	PP, CL, TL
Pyruvate Assay (C/F)	MA-0129	M	TL, CL, S, O
Pyruvate Carboxylase Activity Assay (C)	MA-0216	M	TL, CL
Pyruvate Dehydrogenase Activity Assay (C)	MA-0166	M	TL, CL, O
Pyruvate Kinase Activity Assay (C/F)	MA-0107	M	S, TL, CL
Q-R-S			
Sarcosine Assay (C/F)	MA-0207	M	O
Senescence Detection Kit (C)	COS-0102	CM	CB

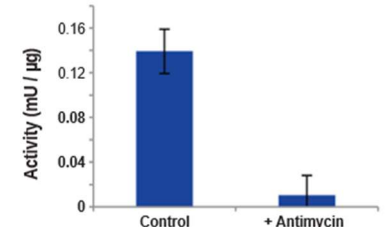
Kit Name (A-Z)	Cat. No.	Platform	Sample Type
Sialic Acid (NANA) Assay (C/F)	MA-0346	M	O
Sphingomyelin Assay (C/F)	MA-0347	M	S, P, TL, CL
D-Sorbitol Assay (C)	MA-0348	M	O
Sphingomyelinase Activity Assay (C/F)	MA-0349	M	TL, CL
Starch Assay (C/F)	MA-0350	M	O
Streptokinase Activity Assay (C)	MA-0368	M	PP, O
Succinate Assay (C)	MA-0134	M	TL, CL, O
Succinyl-CoA Synthetase Activity Assay (C)	MA-0351	M	TL, CL
Sucrose/Glucose Assay (C/F)	MA-0180	M	O
Sulfatase Activity Assay (C)	MA-0163	M	TL, CL, PP
Total Sulfite Assay (C)	MA-0184	M	O
Superoxide Dismutase Activity Assay (C)	MA-0108	M	TL, CL, O
T			
Thrombin Activity Assay (F)	MA-0352	M	S, P, CL, TL, O
Tissue Plasminogen Activator Activity Assay (C)	MA-0370	M	S, P, CB, TL
TMRE Mitochondrial Membrane Potential Assay (F)	MA-0353	M	CL, O
Total Antioxidant Capacity (TAC) Assay (C)	MA-0106	M	S, U, CL
Triglyceride Assay (C/F)	MA-0110	M	TL, CL, S, P
Triglyceride Assay (F)	MA-0354	M	TL, CL, S, P, O
Triose Phosphate Isomerase Activity Assay (C)	MA-0355	M	TL, CL, S, P
Trypsin Activity Assay (C)	MA-0128	M	TL, CL
Tryptophan Assay (F)	MA-0356	M	S, U
Tyrosinase Inhibitor Screening Kit (C)	MA-0178	M	NA
Tyrosine Assay (C)	MA-0229	M	S, P, U, O
U			
UCH-L1 Deubiquitinase Inhibitor Screening Kit (F)	MA-0358	M	NA
UCH-L3 Deubiquitinase Inhibitor Screening Kit (F)	MA-0359	M	NA
UGT Activity Assay / Ligand Screening Kit (F)	MA-0360	M	TL, PP, CL
Urea Assay (C)	MA-0118	M	TL, CL, S, P, U
Urease Activity Assay (C)	MA-0361	M	PP, O
Uric Acid Assay (C/F)	MA-0151	M	S
Uricase Activity Assay Kit (F)	MA-0362	M	TL, PP, O
Urokinase Activity Assay (F)	MA-0363	M	CL, S
V-Z			
PEG Virus Precipitation Kit	PI-0117	M/WB	CL
Xanthine Oxidase Activity Assay (C/F)	MA-0364	M	S, CL, TL
Xanthine/Hypoxanthine Assay (C/F)	MA-0175	M	S, P, CL, TL,
β-Xylosidase Activity Assay Kit (F)	MA-0365	M	PP, O
Yeast Mitochondria Isolation Kit	PI-0119	WB/M	O
Yeast Nuclei Isolation Kit	K289-50	WB/M	O
Zinc Assay (C)	MA-0367	M	S, P, U



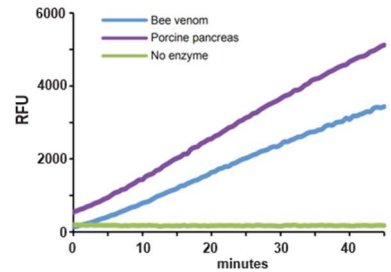
PI-0101 Lipid Extraction Fatty Acid quantification (comparison with Folch)



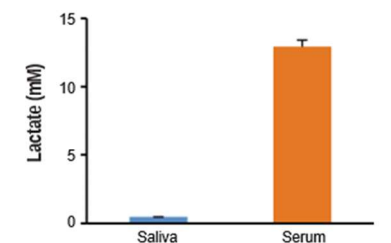
MA-0320 Mitochondrial Complex I Control vs. Rotenone-treated



MA-0321 Mitochondrial Complex III (bovine heart mitochondria)



MA-0341 Phospholipase A2 activity (bee venom, porcine pancreas)



MA-0115 Lactate Assay

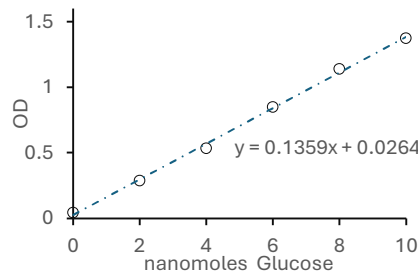
What makes us different ?

It's in our name. Akrivis is an anglicization of the Greek word ακριβής, meaning precise. We strive in big and small ways to make our kits better than what you've used before. We believe that they should be easy to use and at least as precise as the data you're working with. It doesn't help to have an assay with a variability of 50% or more if you're seeing important differences of 10 – 30% between controls and experimental samples.

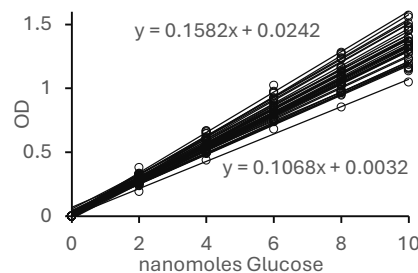
We've been doing this for almost 20 years. In that time, we've seen things, we've acquired a lot of data regarding different assays, what makes them work and what makes them work better. How to extract the most meaningful information from them. One reason we started AkrivisBio was our observation of the lot to lot variation of commercial kits. These are used in academic and corporate research where your data is only as good as the yardstick used to characterize it. We have accumulated years of data on multiple lots of many types of assay kits and the consistency you would expect is just not there. We will present a few examples below, so that what we're saying becomes crystal clear:

The data are from various lots of multiple assays from a major manufacturer of assay kits whose product can be found under a number of different brands.

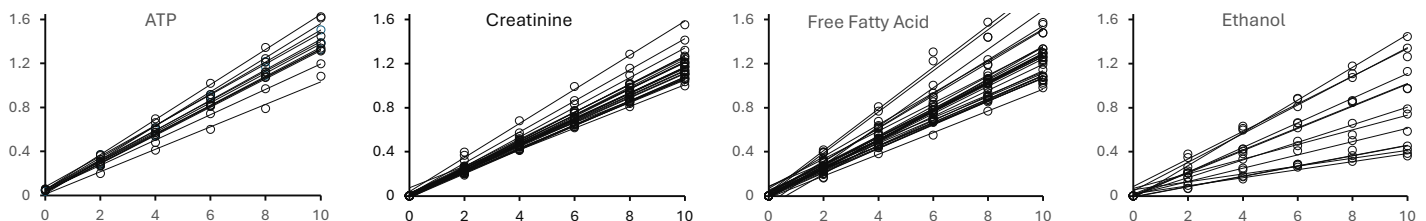
Let's start with a very simple glucose assay. It has only 2 enzymes, glucose oxidase and peroxidase. In the presence of glucose, glucose oxidase forms hydrogen peroxide which is used by peroxidase to oxidize one of a variety of different substrates. In most commercial kits, ADHP is used because it's very sensitive. So, what does a standard curve look like? In most cases, something like this:



One could assume that given the simplicity of this assay, that multiple lots over the course of a few years would all give essentially the same result. The graph below is a sampling of 35 separate lots of a glucose assay kit over a span of about 5 years which passed the QC test criteria and were sold through a number of different companies:



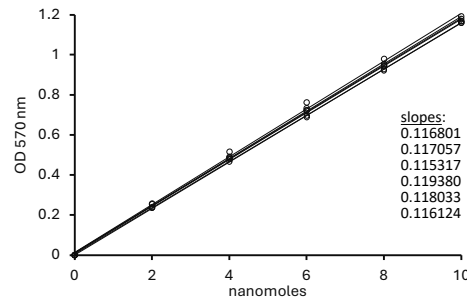
There is a significant variability between these standard curves, giving slopes which varied between about 0.107 and 0.158, almost a 50% difference from the highest to the lowest. It's hard to imagine how a researcher who is looking at, say, the blood glucose concentration of his test animals over a period of time being able to have much confidence in any data not showing at least a 50% change in the data readings. You see the same trend for all assays, here are a few more examples:



One of the problems with being a new company is that you have much less credibility than an established company. We don't have years of data with many multiple lots of each of our assays to show the reproducibility we build into them. There is, however, another way to demonstrate this. In general, there are groups of assays which all work on the same principle. One of these groups is based on the action of a class of enzymes, oxidases on their different substrates, forming hydrogen peroxide in the process which is subsequently utilized by peroxidase to convert one of an assortment of various peroxidase substrates to an oxidized product with enhanced color or fluorescence. The one we use is ADHP (10-Acetyl-3,7-dihydroxyphenoxazine) which produces both intense color and fluorescence when it is converted into resorufin.

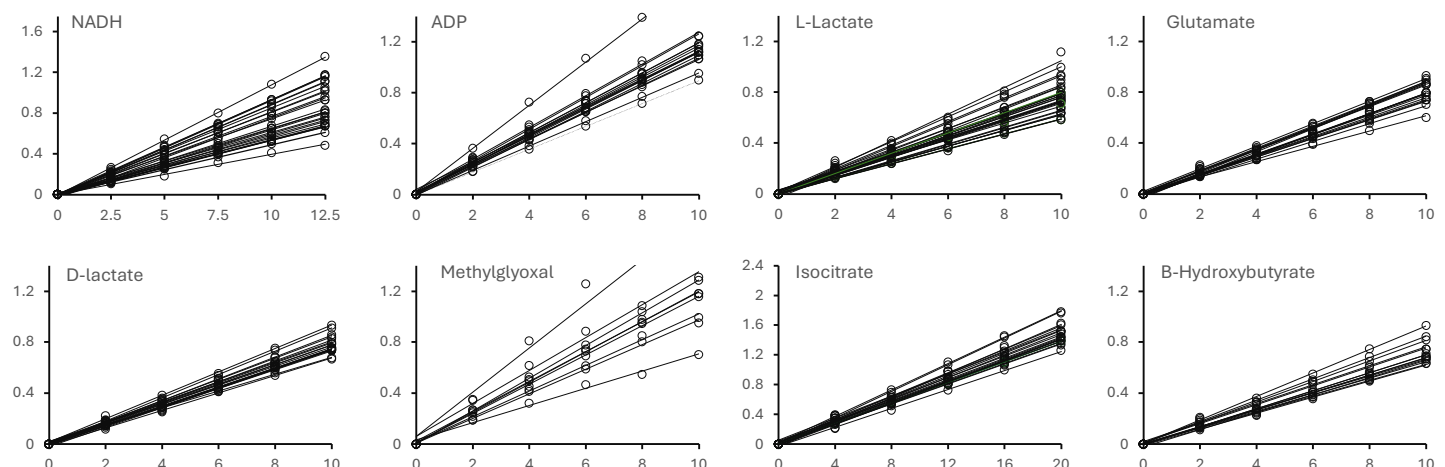
The important point is that the stoichiometry of all of the oxidases is the same. One substrate gives one hydrogen peroxide gives one resorufin. It doesn't matter which assay is used. As long as the assay conditions are essentially the same you will get the same standard curve, whether the substrate is glucose or cholesterol or ethanol or any other one of many tens if not hundreds of biochemicals for which there is an associated oxidase. This means we can superimpose different assays to show the reproducibility.

Here is a graph of several standard curves, for several different molecules, namely, glucose, ATP, creatinine, ethanol, free fatty acid and hydrogen peroxide itself.

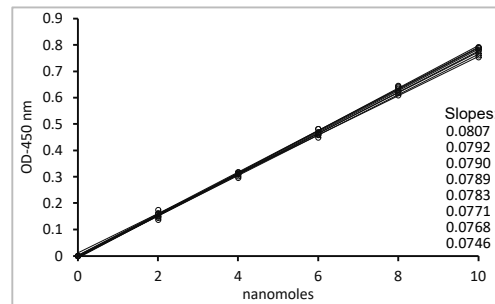


The difference between the highest and lowest standard curves is just 3.5%, clearly, much more consistent results, providing you with increased confidence in your experimental data. There are some substrates which do not give the same slope in their standard curve. Uric acid is one such, due to its antioxidant properties neutralizing some of the hydrogen peroxide produced, resulting in a slope about 25% of that seen here. Xanthine is another. It is oxidized in 2 steps, first to hypoxanthine, then to urate, so the standard curve is 2X steeper than that shown here.

Another common detection mechanism is the use of water-soluble tetrazoliums (WST's). We prefer WST-8, but others use similar chemicals to detect biochemicals which can be oxidized through the action of dehydrogenases which form NADH or NADPH. There are a wide variety of chemicals susceptible to dehydrogenases. Following are sets of standard curves from multiple lots of different assays:



Again, as was the case with the ADHP based kits, we don't have multiple lots of WST-8 based kits either. As was also the case with the ADHP based kits, the stoichiometry is the same for all of these chemicals, so all of these assays should give identical results. What we see when WE do the assays for L-lactate, acetate, D-lactate, B-hydroxybutyrate, glutamate, succinate, branched-chain amino acids and NADH:



As was the case with the ADHP based assays, we can see that when properly done, the WST-8 based assays all show the same molecular sensitivity which makes complete sense. This is one of the primary differentiating factors between AkrivisBio and other companies' kits.

Glycolytic Pathway

TCA Cycle / Intermediary Metabolism

Amino Acids

Lipids

Cofactors and Prosthetic Groups

Carbohydrates

Nucleic Acids

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Belgium

Gentaur B.V.

Voortstraat 49, 1910 Kampenhout
Tel: +32 2 265 09 20
Email: info@gentaur.com

China

AmyJet Scientific, Inc.

13/F, Block 1, Harbour of Technology
Times, No.35
Optical Valley Ave
Wuhan, Hubei 430074
Tel: 400-6800-868.
E-mail: sales@amyjet.com

Morey Biosciences

Room 1004, Building B2,
Putian Information Industry Park,
No. 700 Yishan Road, Xuhui District,
Shanghai
Tel: 4006-400-850
Email: info@moreybio.com

France

Euromedex

24 rue des tuileries
67460 Souffelweyersheim
Tel: +33 3 88 18 07 27
Email: info@euromedex.com

Germany

BioCat GmbH

Im Neuenheimer Feld 584
69120 Heidelberg
phone +49 (0) 6221-714 15 16
info@biocat.com

Hong Kong

Dasheng Biotechnology Co., Ltd.

Room 322, 3/F, Wan Neng Court, 9 Hoi
Wing Road,
Tuen Mun, New Territories,
Phone: 00852-26682848
Email: sale_hongkong@dakewe.net

Italy

Vinci Biochem

Via Ponte di Bagnolo, 10
50059 Vinci (Firenze)
Tel: +39 0571 568 147
Email: vb@vincibiochem.it

Singapore

ProBioscience Technologies

62 Ubi Road 1 Oxley Bizhub 2, #11-14,
Singapore 408734
Tel: +65 6980 8108
Email: info@probioscience.org

South Korea

Edithgen

307, 3F, Center Plaza, 142
Sunoeuljungang-ro
Hwaseong-si, Gyeonggi-do 18245
Tel: +82-31-366-8952
Email: edithgen@daum.net

Leehyo Bioscience Co., Ltd.

107 Bokjeong ro Sujeong-gu
Seongnam-si Gyeonggi-do
TEL: 031-722-2382
E-mail: support@leehyobio.com

Selleckchem

AL #314, Acrovista Bldg, 188,
Seochojungang-ro, Seocho-gu,
Seoul 06600
Tel: +82-70-7465-2966
E-mail: sales@selleck.kr

Sungwoo Life Sciences

16, Junggeum-ro,
Uijeongbu-si, Gyeonggi-do
Tel: +82 2-985-7471
Email: sungwoo_ls@hanmail.net

Spain

Deltaclon S.L.

C. de Javier del Quinto, 4, bajo 3,
Hortaleza, 28043 Madrid
Phone: +34 917 64 53 64
Email: info@deltaclon.com

Switzerland

LuBioScience GmbH

Baumackerstrasse 24
8050 Zürich
Tel: +41 41 417 02 80
Email: info@lubio.ch

Taiwan

Asia Bioscience Co. Ltd.

1F. No. 1 Lane 661
Wenlin Rd. Shihlin District
Taipei City 111
Phone +886 2 8866 3366
Fax +886 2 2833 1789
Email info@abscience.com.tw

BioPioneer Tech CO., Ltd.

No. 1, Baosheng Rd, Yonghe District,
New Taipei City, 234
Phone: 02-8660-9496
Email: tding@msa.hinet.net
info@biopioneer.com.tw

Biogenes Science Inc.

17th Floor, No. 10, Lane 394, Section 1,
Wenhua 3rd Road, Linkou District,
New Taipei City
Phone: 0958-199-580
Email: service@biogenes.com.tw

India

Biolinkk

Third Floor, Plot No. 25,
Community Centre, Block B-1,
Janakpuri, Delhi-110058
Phone: +9111-4503-5753
Email: customerservice@biolinkk.com

Celltech Biosciences LLP

Uttam Nager
New Delhi - 110059, INDIA
Tel.: +91-92890 79850 / 79824 77651
Email: info@celltechbiosciences.com

Everon Life Sciences

805, ashok bhawan 93, Nehru Place,
New Delhi, 110019
Tel: +91 11 4160 8700
Email: info@everonlife.com

UK

Caltag Medsystems

11 Little Balmer,
Buckingham MK18 1TF,
United Kingdom
Phone: +44 1280 827460
Email: office@caltagmedsystems.co.uk

USA

Axxora

21 Executive Blvd
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