

Metabolism Assays

Tools for Metabolic Analysis

Metabolism is the complex network of metabolic reactions happening in organisms under different conditions in their life cycle.

Dysbalance in regulation and control of these pathways can result in a variety of diseases. A very well understood example of this type of control is the regulation of the carbohydrate metabolism by insulin.

To facilitate metabolic analysis, a wide variety of sensitive, accurate and straightforward cell metabolism assays is offered, covering the full spectrum of anabolic and catabolic pathways. Most of the assays can be performed in 96-well plates, and the results are analyzed by fluorometric or colorimetric methods.

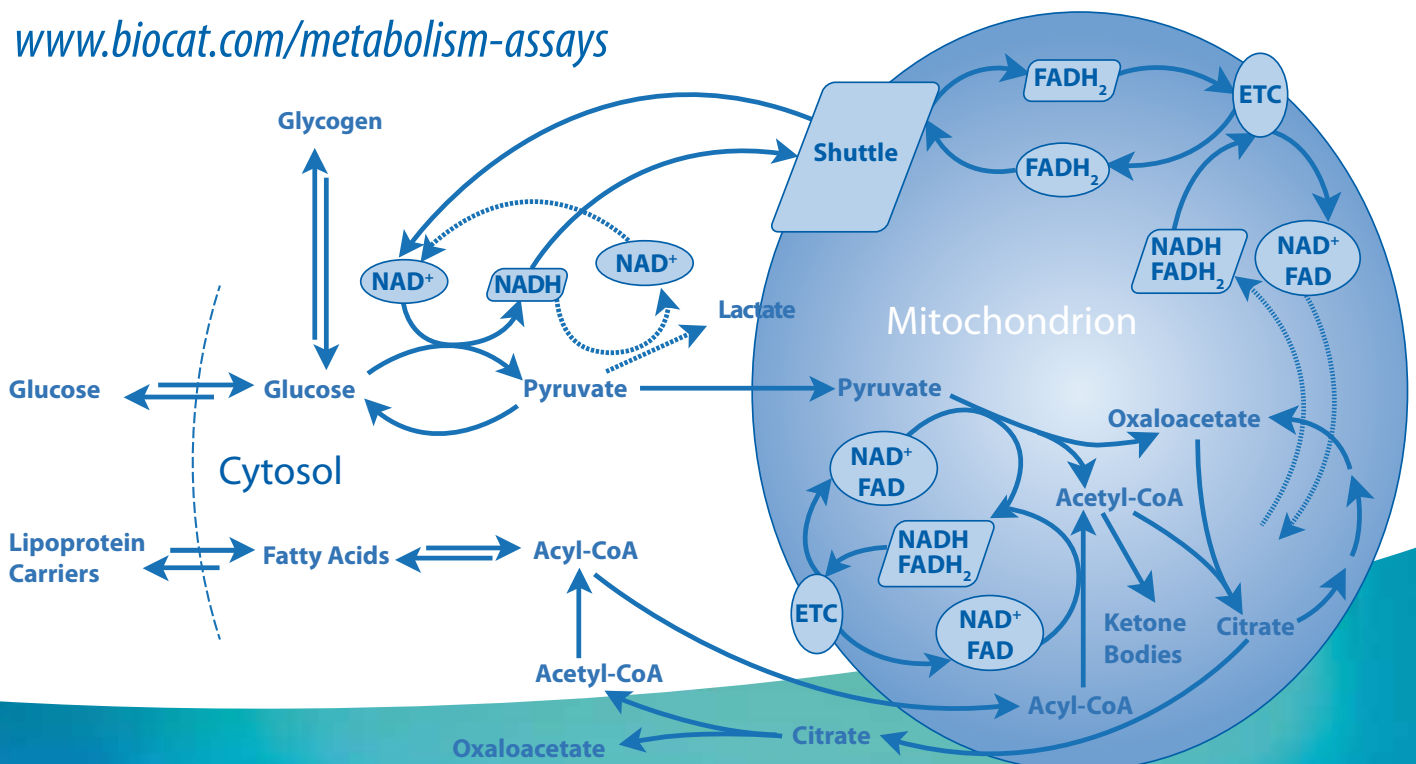
Diabetes & Obesity

Cardiovascular Markers

Lipid Metabolism

Cellular Metabolism

www.biocat.com/metabolism-assays



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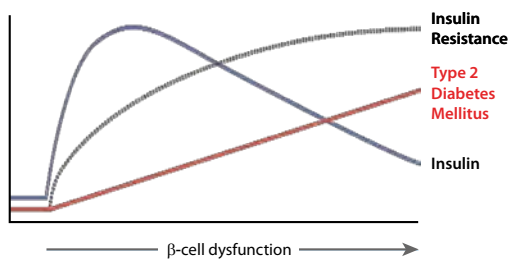
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Diabetes and Obesity

Assays for metabolites involved in energy homeostasis

Energy homeostasis is a well-regulated process that depends on the coordination between feeding behavior and energy expenditure. The control of energy homeostasis in humans has received much attention in recent years due to alterations caused by the onset of conditions such as obesity and diabetes. It is now recognized that there are many central and peripheral factors involved in energy homeostasis. Understanding of these mechanisms should lead to effective treatments for the control of diabetes, obesity and other metabolic disorders. Together with our partners we offer numerous sensitive metabolite assay kits to assist both academic and industry researchers.

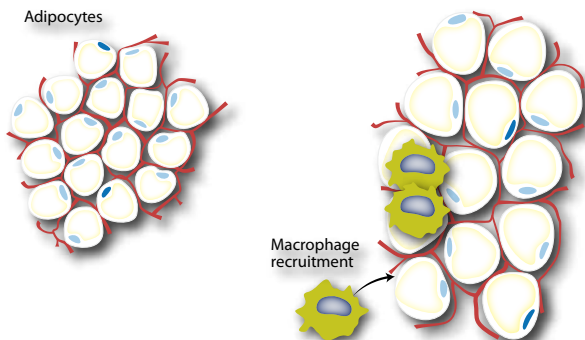


Changes in insulin secretion associated with β -cell dysfunction.

Diabetes mellitus type 2 makes up around 90% of all diabetes disorders. It is characterized by high levels of blood glucose and increased insulin resistance: Impaired glucose tolerance observed in pre-type 2 diabetics is compensated for by increased secretion of insulin by pancreatic β -cells. As type 2 diabetes progresses, however, the ability of pancreatic β -cells to secrete sufficient levels of insulin to stimulate glucose uptake by the insulin resistant peripheral tissue diminishes due to decreased pancreatic β -cell mass/function, and, as a result, blood glucose levels rise.

Serious long-term complications include cardiovascular disease, chronic renal failure, and diabetic retinopathy.

Lean Normal Adipose	Central Obesity Adipose Dysfunction
<ul style="list-style-type: none"> • Small mature adipocyte • \downarrow Macrophage • \uparrow Adiponectin • \downarrow TNFα, IL-6 • Insulin sensitive 	<ul style="list-style-type: none"> • Inflamed heterogenous adipocytes • \uparrow Macrophage accumulation • \downarrow Adiponectin • \uparrow TNFα, IL-6 • Insulin resistant



Hallmarks of adipose dysfunction.

Obesity is thought to be the primary cause of type 2 diabetes in people who are genetically predisposed to the disease. The field of obesity research had been almost unapproached until the discovery of leptin in 1994. Since then, many other hormonal mechanisms have been shown to participate in the regulation of food intake, adipose tissue and development of insulin resistance. Some of the main players involved are certain cytokines summarized as adipokines since they are produced by adipose tissue. Today they are more accurately put into the growing list of adipose derived hormones. Their action is thought to modify many obesity-related diseases. Leptin, resistin, PYY, MCP-1, adiponectin and other hormones are in the focus of ongoing research. Leptin can be regarded as a direct adiposity marker, since it circulates and enters the central nervous system at levels directly proportional to body fat. It is the counterpart of Ghrelin, a hunger-stimulating peptide hormone of 28 amino acids, that is produced mainly by the stomach and by epsilon cells of the pancreas. BioCat offers an extensive variety of assays for metabolites involved in energy homeostasis and related diseases like diabetes and obesity.

Analyte	Human	Mouse	Rat
Adiponectin (Multimeric)	•	•	
Adiponectin (Total)	•	•	•
C-Peptide	•	•	•
Chemerin	•		
GLP-1 (Glucagon-like Peptide 1, 7-36, 9-36)	•		
GLP-1 (Glucagon-like Peptide 1, Active 7-36)	•		
GLP-2 (Glucagon-like Peptide 2)	•	•	•
Glucagon	•	•	•
Growth Hormone	•		
Growth Hormone (Ultrasensitive)	•		
IL-6	•	•	•
IL-6 (Ultrasensitive)	•		
Insulin	•	•	•
Insulin High Range		•	•
Insulin (Ultrasensitive)	•	•	•
Leptin	•	•	•
L-FABP (Liver Fatty Acid Binding Protein)	•	•	•
MCP-1 (Monocyte Chemoattractant Protein 1)	•	•	•
Ghrelin	•	•	•
PYY (Peptide YY)	•	•	•
Proinsulin	•	•	•
Resistin	•	•	•
Retinol Binding Protein (RBP)	•		
TNF- α	•	•	•
VEGF (Vascular Endothelial Growth Factor)	•	•	•

Overview of ELISA kits for biomarkers in energy homeostasis.

Please note that this table represents just a few selected assays. For a full overview, please visit our website.

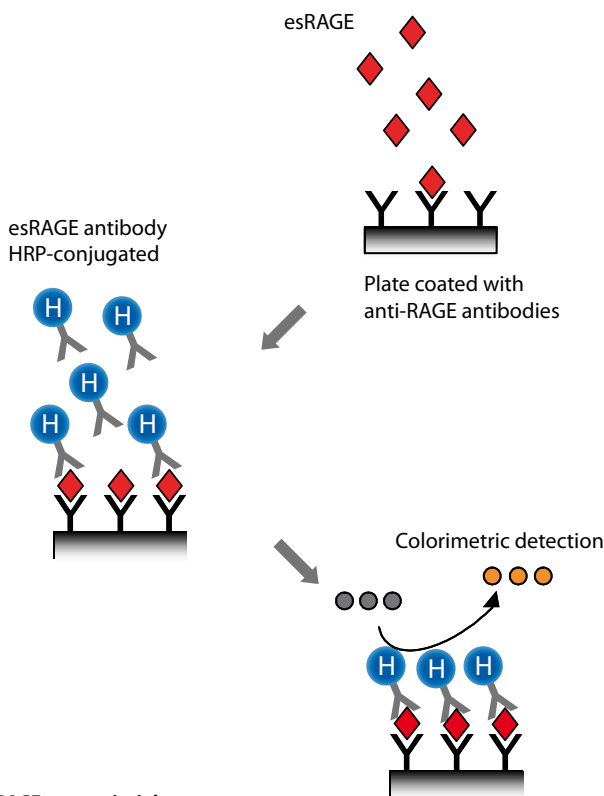
www.biocat.com/metabolism-assays

Human esRAGE ELISA Kit

Advanced glycation end products (AGE) are generated by reduced sugars irreversibly bound to the amino groups of proteins by nonenzymatic glycation. AGE has been shown to be a major factor in diabetic vasculopathy, neuropathy, retinopathy, Alzheimer's disease, and immune/inflammatory reactions of vessel walls.

The receptor for AGE (RAGE) is a 45 kDa protein, a member of the immunoglobulin superfamily of cell surface molecules, and found in mononuclear phagocytes, endothelium, vascular smooth muscle, and the central nervous system.

RAGE is a multi-ligand receptor. The most pathological consequence of the AGE-RAGE engagement is the induction of chemical pathways leading to the disruption of normal functions. A novel splice variant of RAGE, named endogenous secretory receptor (esRAGE), can capture AGE and neutralize the effects of AGE on cells. esRAGE has been found circulating in blood and in extracellular fluids of our bodies.



esRAGE assay principle.

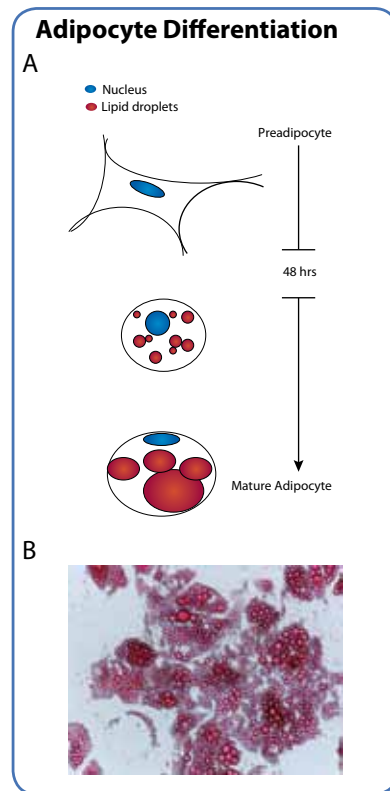
B-Bridge's Human esRAGE ELISA Kit specifically detects the endogenous secreted form of RAGE (i.e. esRAGE) in human serum and plasma samples. The microplate is pre-coated with primary anti-esRAGE antibody. The secondary esRAGE antibody conjugated to HRP is added for detection. After incubation, 3,3',5,5'-tetramethylbenzidine (TMB) and hydrogen peroxide are added as a colorimetric substrate for color development. Color is measured at 450 nm.

www.biocat.com/esrage

Human Adipocytes

Metabolic diseases are often associated with the accumulation of abdominal adipose in specific visceral depots. Recent studies have implicated omental and mesenteric adipose tissue in obesity-related insulin resistance, atherosclerosis, and type 2 diabetes. To provide the most relevant systems for investigating obesity-related morbidities, BioCat is offering visceral derived human preadipocytes and cultured adipocytes to the research community.

Our partner Zen-Bio provides the highest quality primary human cultured preadipocytes and adipocytes. The cells are isolated from a wide variety of patients with good representation from all levels of adiposity and age. Cells are available from both male and female donors. Pooled lots of cells are available from both male and female donors to provide large lots for screening and to decrease issues with patient to patient variability.



A. Adipocyte differentiation scheme.

After reaching 100% confluency, preadipocytes are incubated an additional 48 hours before initiating differentiation. The cells require this time to initiate growth arrest.

B. Subcutaneous adipocytes at two weeks post differentiation.

Cells were stained with the neutral lipid dye Oil Red O.

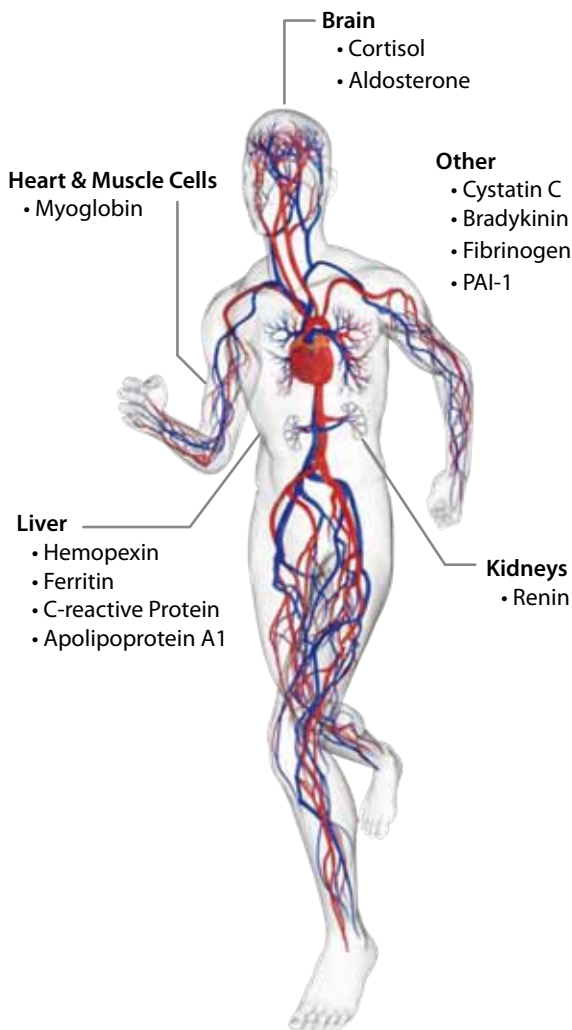
Preadipocytes are provided cryopreserved or in culture. Adipocytes are differentiated *in vitro* from preadipocytes using patent-protected differentiation methods. Cells are available in a variety of plate formats. Specially formulated media are also offered.

www.biocat.com/adipocytes

Cardiovascular Markers

Biomarkers of Heart Disease and Oxidative Stress

Cardiovascular diseases (CVDs) have been shown to be tightly linked to obesity and type 2 diabetes. CVD is comprised of several different diseases that affect the heart itself and/or the circulatory system. Some examples include: coronary artery disease, cardiomyopathy, ischemic heart disease and heart failure. Despite advances in medical technology and therapeutics, CVD remains the leading cause of death worldwide.



In an effort to provide a more detailed picture of the risk of cardiovascular disease, researchers have been searching for novel biomarkers of CVD. Some biomarkers which have shown to be reflective of a higher risk of cardiovascular disease include fibrinogen, PAI-1 and C-reactive protein. As more biomarkers of CVD are better understood, they have the potential of becoming therapeutic targets.

www.biocat.com/cardiovascular

Diabetes and Fracture Risk

Sclerostin - A Modulator of the Wnt Pathway

As the population continues to age, the prevalence of diabetes mellitus and osteoporosis is increasing. Because type 2 diabetes mellitus is associated with an increased risk of fractures, the relationship between the two diseases is currently under investigation. The Wnt signaling pathway has recently been reported to be implicated: Too little activation can lead to reduced bone mass and too much activation can lead to excess bone mass. More recently, the Wnt pathway has been reported to play a role in diabetes by impacting pancreatic beta cell function through modulation of insulin secretion and regulation of cell viability.

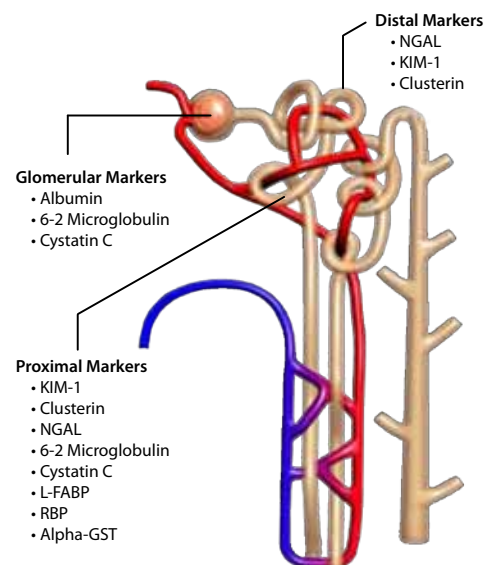
An inhibitor of the Wnt signaling pathway, sclerostin, is released from mature osteocytes and has been reported to be involved in bone diseases, rheumatoid arthritis, multiple myeloma and bone metastases. More recently, circulating levels of sclerostin have been shown to be increased in the context of type 2 diabetes mellitus. While the pathogenesis of poor bone quality and increased fracture risk in the presence of diabetes remains to be clarified, the presence of elevated sclerostin levels may serve as a springboard for future research endeavors in this field.

www.biocat.com/sclerostin

Renal Tissue Injury and Function

Biomarkers for Diabetic Nephropathy

Diabetic nephropathy (DN) is a major long term complication of diabetes mellitus. It is characterized by nephrotic syndrome and diffuse glomerulosclerosis due to longstanding diabetes mellitus 1. Several new sensitive & site specific biomarkers may be used to recognize DN earlier than traditional methods.



Biomarkers for Acute Kidney Injury

Acute kidney injury (AKI), also known as acute renal failure, is a prevalent and serious condition which is characterized by a rapid reduction in kidney function resulting in changes in fluid balance and cellular homeostasis. New injury site-specific biomarkers have emerged to identify AKI at an earlier stage which could allow for faster treatment. They are being evaluated in various research, pre-clinical and clinical applications.

www.biocat.com/aki

Overview Metabolism ELISAs

This overview covers metabolites involved in diabetes and obesity, cardiovascular, endocrinological and immunological markers. For intermediary metabolites and other analytes involved in basic cellular metabolism as well as for lipoprotein metabolism, please proceed to the next chapters of this brochure. For a complete overview, please visit our website. If you can't find the assay you are looking for, please send a message to info@biocat.com or call us: +49 (0) 6221 7141516.

www.biocat.com/metabolism-assays

Diabetes and Obesity

Adiponectin (Acrcp30) (Human Total & Multimeric: LMW/Trimeric MMW/Hexameric HMW) ELISA Kit	47-ADPHU-E01-AL
Adiponectin (Acrcp30) Total Human ELISA	47-ADPHUT-E01-AL
Adiponectin (Acrcp30) Mouse Total & HMW ELISA Kit	47-ADPMS-E01-AL
Adiponectin (Acrcp30) Mouse/Rat Full Length Mature Adiponectin ELISA Kit	K1002-1-BR
Adiponectin (Acrcp30) Rat ELISA Kit	22-ADPRT-E01-AL
CETP Cholesteryl Ester Transfer Protein (Human) ELISA Kit	47-CETHU-E01-AL
C-Peptide (Human) ELISA Kit	80-CPTHU-E01.1-AL
C-Peptide (Human) ELISA Kit, Jumbo Kit (10 Pack)	80-CPTHU-E10-AL
C-Peptide (Mouse) ELISA Kit	80-CPTMS-E01-AL
C-Peptide (Rat) ELISA Kit	80-CPTRT-E01-AL
Chemerin (Human) ELISA Kit	22-CHM-E102-AL
esRAGE (endogenous secreted form of the Receptor for Advanced Glycation End-Products) (Human) ELISA Kit	K1009-1-BR
Fetuin-A / alpha-2-HS glycoprotein (AHSG) (Human) ELISA Kit	43-FETHU-E01-AL
Ghrelin (Human, Mouse, Rat) ELISA Kit	EIA-GHR-1-RB
GLP-1 (7-36 and 9-36) (Human) ELISA	43-GPTHU-E01-AL
GLP-1 (Active 7-36) (Human) ELISA	43-GP1HU-E01-AL
GLP-2 (Human) ELISA Kit	48-GP2HU-E01.1-AL
GLP-2 (Mouse) ELISA Kit	48-GP2MS-E01-AL
GLP-2 (Rat) ELISA Kit	48-GP2RT-E01-AL
Glucagon (Human, Mouse, Rat) ELISA Kit	48-GLUHU-E01-AL
hGH / Growth Hormone (Human) ELISA Kit	25-HGHHU-E01-AL
hGH / Growth Hormone (Human) Ultra Sensitive ELISA Kit	22-HGHUU-E01-AL
Insulin (Cow / Bovine) ELISA Kit	80-INSBO-E01-AL
Insulin (Dog / Canine and Porcine / Pig) ELISA Kit	80-INSPO-E01-AL
Insulin (Human) ELISA Kit	80-INSHU-E01.1-AL
Insulin (Human) ELISA Kit, Jumbo Kit	80-INSHU-E10.1-AL
Insulin (Human) Ultra-Sensitive ELISA Kit	80-INSHUU-E01.1-AL
Insulin (Mouse) ELISA Kit	80-INSMS-E01-AL
Insulin (Mouse) ELISA Kit, Jumbo Kit	80-INSMS-E10-AL
Insulin (Mouse) High Range ELISA Kit	80-INSMSH-E01-AL
Insulin (Mouse) High Range ELISA Kit, Jumbo Kit	80-INSMSH-E10-AL

Insulin (Mouse) Ultra Sensitive ELISA Kit	80-INSMSU-E01-AL
Insulin (Mouse) Ultra Sensitive ELISA Kit, Jumbo Kit	80-INSMSU-E10-AL
Insulin (Rat) ELISA Kit	80-INSRT-E01-AL
Insulin (Rat) ELISA Kit, Jumbo Kit	80-INSRT-E10-AL
Insulin (Rat) High Range ELISA Kit	80-INSRTH-E01-AL
Insulin (Rat) High Range ELISA Kit, Jumbo Kit	80-INSRTH-E10-AL
Insulin (Rat) Ultra Sensitive ELISA Kit	80-INSRTU-E01-AL
Insulin (Rat) Ultra Sensitive ELISA Kit, Jumbo Kit	80-INSRTU-E10-AL
Insulin (Sheep / Ovine) ELISA Kit	80-INSOV-E01-AL
LCAT Lecithin Cholesterol Acyltransferase (Human) ELISA Kit	47-LCAHU-E01-AL
Leptin (Human) ELISA Kit	11-LEPHU-E01-AL
Leptin (Mouse/Rat) ELISA Kit	22-LEPMS-E01-AL
LPL Lipoprotein Lipase (Human) ELISA Kit	47-LPLHU-E01-AL
MCP-1 (Rat) ELISA Kit	45-MCPRT-E01-AL
Obestatin (Human) ELISA Kit	48-OBEHU-E01-AL
Obestatin (Mouse/Rat) ELISA Kit	48-OBEMS-E01-AL
Osteocalcin (Human) ELISA Kit	38-OSTHU-E01-AL
Osteocalcin (Intact, 1-49) (C-terminus truncated, 1-43) (Human) ELISA Kit	43-OSNHU-E01-AL
Proinsulin (Human) ELISA Kit	80-PINHU-E01.1-AL
Proinsulin (Mouse) ELISA Kit	80-PINMS-E01-AL
Proinsulin (Rat) ELISA Kit	80-PINRT-E01-AL
PYY (Human) ELISA	48-PYYHU-E01.1-AL
PYY (Mouse/Rat) ELISA	48-PYYRT-E01.1-AL
Retinol Binding Protein (RBP) (Human) AssayMax ELISA	ER1005-1-AS
Resistin (Human, Mouse, Rat) ELISA Kit	EIA-RES-1-RB
Serum Amyloid A (SAA) (Mouse) ELISA Kit	41-SAAMS-E01-AL
Serum Amyloid Protein (SAP) (Mouse) ELISA Kit	41-SAPMS-E01-AL
Serum Amyloid Protein (SAP) (Rat) ELISA Kit	41-SAPRT-E01-AL

Cardiovascular Markers

Aldosterone (Human) ELISA	11-ALDHU-E01-AL
Antithrombin III (Rat) ELISA	41-AT3RT-E01-AL
Apolipoprotein A1 (Human) ELISA	41-APOHU-E01-AL
Bradykinin (Human) ELISA	48-BRAHU-E01-AL
Ceruloplasmin (Rat) ELISA	41-CERRT-E01-AL
C-reactive Protein (Equine) ELISA	41-CRPEQ-E01-AL
CRP / C-Reactive Protein (Canine) ELISA Kit	41-CRPCA-E01-AL
CRP / C-Reactive Protein (Feline) ELISA Kit	41-CRPFE-E01-AL
CRP / C-Reactive Protein (Mouse) ELISA Kit	41-CRPMS-E01-AL
CRP / C-Reactive Protein (Pig) ELISA Kit	41-CRPPO-E01-AL
CRP / C-Reactive Protein (Rabbit) ELISA Kit	41-CRPRB-E01-AL
CRP / C-Reactive Protein (Rat) ELISA Kit	41-CRPRT-E01-AL
cTnI Cardiac Troponin I (Human) ELISA Kit	25-TR1HU-E01-AL
Cystatin C (Human) ELISA	41-CYCHU-E01-AL
Cystatin C (Rat) ELISA	41-CYCRT-E01-AL
Ferritin (Human) ELISA	25-FERHU-E01-AL
Ferritin (Mouse) ELISA	41-FERMS-E01-AL
Ferritin (Rat) ELISA	41-FERRT-E01-AL
Fetuin-A / alpha-2-HS glycoprotein (AHSG) (Human) ELISA Kit	43-FETHU-E01-AL
Fetuin-A (Human) Ultrasensitive ELISA	43-FETHUU-E01-AL
Fibrinogen (Canine) ELISA	41-FIBCA-E01-AL
Fibrinogen (Mouse) ELISA	41-FIBMS-E01-AL
Fibrinogen (Porcine) ELISA	41-FIBPO-E01-AL
Fibrinogen (Rat) ELISA	41-FIBRT-E01-AL
Fibrinogen (Human) ELISA	41-FIBHU-E01-AL
Fibronectin (Mouse) ELISA	41-FNEMS-E01-AL
Fibronectin (Rat) ELISA	41-FNERT-E01-AL
Haptoglobin (Bovine) ELISA	41-HAPBO-E01-AL
Haptoglobin (Canine) ELISA	41-HAPCA-E01-AL
Haptoglobin (Equine) ELISA	41-HAPEQ-E01-AL
Haptoglobin (Feline) ELISA	41-HAPFE-E01-AL
Haptoglobin (Human) ELISA	41-HAPHU-E01-AL
Haptoglobin (Mouse) ELISA	41-HAPMS-E01-AL

Haptoglobin (Porcine) ELISA	41-HAPPO-E01-AL
Haptoglobin (Rabbit) ELISA	41-HAPRB-E01-AL
Haptoglobin (Rat) ELISA	41-HAPRT-E01-AL
Hemoglobin (Equine) ELISA	41-HEMEQ-E01-AL
Hemoglobin (Mouse) ELISA	41-HEMMS-E01-AL
Hemoglobin (Rat) ELISA	41-HEMRT-E01-AL
Hemoglobin (Rat) ELISA	48-HEMRT-E01-AL
Hemopexin (Human) ELISA	41-HMPHU-E01-AL
Hemopexin (Mouse) ELISA	41-HMPMS-E01-AL
Hemopexin (Rat) ELISA	41-HMPRT-E01-AL
Microalbumin ELISA	24-MABHU-E01-AL
Myoglobin (Human) ELISA Kit	24-MYOHU-E01-AL
Myoglobin (Mouse) ELISA	41-MYOMS-E01-AL
Myoglobin (Rat) ELISA	41-MYORT-E01-AL
Nitric Oxide Synthase-1 (NOS1) (Human/Rat) ELISA	48-NOSHU-E01-AL
Renin (Human) Activity ELISA	11-RENHU-E02-AL
Transferrin (Canine) ELISA	41-TRACA-E01-AL
Transferrin (Human) ELISA	41-TRAHU-E01-AL
Transferrin (Mouse) ELISA	41-TRAMS-E01-AL
Transferrin (Rabbit) ELISA	41-TRARB-E01-AL
Transferrin (Rat) ELISA	41-TRART-E01-AL
Urocortin 2 (Mouse) ELISA	48-UR2MS-E01-AL
Urocortin 3 (Mouse/Rat) ELISA	48-UROMS-E01-AL

Kidney Injury Markers

Albumin (Canine) ELISA	41-ALBCA-E01-AL
Albumin (Mouse) ELISA	41-ALBMS-E01-AL
Albumin (Rat) ELISA	41-ALBRT-E01-AL
Alpha GST (Rat) ELISA	80-AGTRT-E01-AL
Beta-2 Microglobulin (Rat) ELISA	41-MICRT-E01-AL
Clusterin (Rat) ELISA	41-CLURT-E01-AL
Cystatin C (Human) ELISA	41-CYCHU-E01-AL
Cystatin C (Rat) ELISA	41-CYCRT-E01-AL
KIM-1 (Human) ELISA	41-KIMHU-E01-AL
KIM-1 (Mouse) ELISA	41-KIMMS-E01-AL
KIM-1 (Rat) ELISA	41-KIMRT-E01-AL
L-FABP (Liver Fatty Acid Binding Protein) (Human) ELISA	41-LFAHU-E01-AL
L-FABP (Liver Fatty Acid Binding Protein) (Rat) ELISA	41-LFART-E01-AL

Endocrine Markers

5a-Androstane-3a, 17b-diol Glucuronide (Human) ELISA	11-ANDHU-E01-AL
Androstenedione (Human) ELISA	11-ANRHU-E01-AL
Calcitonin (Human) ELISA Kit	21-CALHU-E01-AL
Corticotropin Releasing Factor / RF (Mouse, Rat) ELISA Kit	48-CRFMS-E01-AL
Cortisol (Human) ELISA	11-CORHU-E01-AL
Cortisol (Human) ELISA (Saliva)	11-CORHU-E01-SLV-AL
Dehydroepiandrosterone (Human) ELISA (DHEA-S ELISA)	11-DHEHU-E01-AL
Dihydrotestosterone (Human) ELISA (DHT ELISA)	11-DHTHU-E01-AL
Dopamine (Human) ELISA Kit for other Biological Fluids	17-DOPHU-E01-RES-AL
Epinephrine / Adrenaline & Norepinephrine / Noradrenaline Bi-CAT (Human) ELISA Kit for other Biological Fluids	17-BCTHU-E02-RES-AL
Epinephrine / Adrenaline (Human) ELISA Kit for other Biological Fluids	17-EPIHU-E01-RES-AL
Erythropoietin (Human) ELISA	21-EPOHU-E01-AL
Estradiol 17 Beta (Human) ELISA	48-ESTHU-E01-AL
Estradiol (Human) ELISA	11-ESTHU-E01-AL
Estrone (Human) ELISA	11-ESRHU-E01-AL
Follicle Stimulating Hormone (Human) ELISA	11-FSHHU-E01-AL
hCG (Human Chorionic Gonadotropin) ELISA	25-HCGHU-E01-AL
Luteinizing Hormone (Human) ELISA	11-LUTHU-E01-AL
Norepinephrine (Human) ELISA Kit for other Biological Fluids	17-NORHU-E01-RES-AL

Osteocalcin (Human) ELISA Kit	38-OSTHU-E01-AL
Osteocalcin (Intact, 1-49) (C-terminus truncated, 1-43) (Human) ELISA Kit	43-OSNHU-E01-AL
Pregnenolone (Human) ELISA	11-PREHU-E01-AL
Progesterone (Human) ELISA	11-PROHU-E01-AL
Progesterone (Human) ELISA (Direct Saliva)	11-PROHU-E01-SLV-AL
PTH Parathyroid Hormone (Intact) (1-84) (Human) ELISA Kit	21-IPTHU-E01-AL
Serotonin (Human) ELISA Kit	17-SERHU-E01-RES-AL
Sex Hormone Binding Globulin (SHBG) (Human) ELISA	11-SHBHU-E01-AL
T3 (Triiodothyronine) (Human) (Free) ELISA	25-FT3HU-E01-AL
T4 (Thyroxine) (Human) (Free) ELISA	25-FT4HU-E01-AL
Testosterone, Free (Human) ELISA	11-FTSHU-E01-AL
Testosterone (Human) ELISA, Serum	11-TESTHU-E01-AL
Testosterone (Human) ELISA, Plasma	11-TESTHU-E01-PLAS-AL
Testosterone (Human) ELISA, Direct Saliva	11-TESTHU-E01-SLV-AL
Thyroid Stimulating Hormone (TSH) (Human) ELISA	25-TSHHU-E01-AL
Total Thyroxine (Total T4) (Human) ELISA	25-TT4HU-E01-AL
Total Triiodothyronine (Total T3) (Human) ELISA	25-TRI3HU-E01-AL
TSH (Thyroid Stimulating Hormone) (Human) Ultrasensitive ELISA	25-TSHUUU-E01-AL

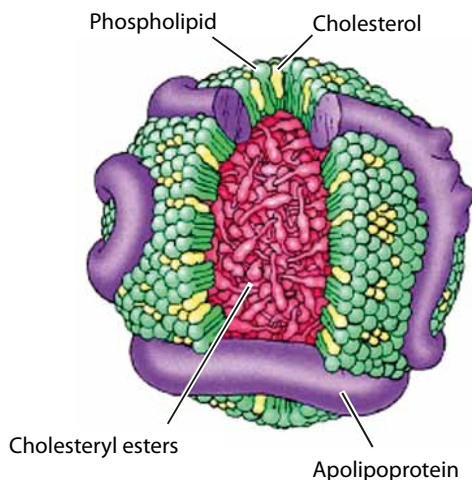
Cytokines, Growth Factors & Chemokines

APRIL (Human) ELISA	61-APRHU-E01-AL
Bcl-2 (Human) ELISA	61-BCLHU-E01-AL
Caspase-8 (Human) ELISA	61-CA8HU-E01-AL
Caspase-9 (Human) ELISA	61-CA9HU-E01-AL
Cathepsin L (Human) ELISA	61-CALHU-E01-AL
CD153 (Human) ELISA	61-153HU-E01-AL
CINC-1 (Rat) (Cytokine-Induced Neutrophil Chemoattractant) ELISA	48-CINRT-E01-AL
Cu/ZnSOD (Human) ELISA	61-CUZHU-E01-AL
Cytochrome c (Human) ELISA	61-CYCHU-E01-AL
EGF (Epidermal Growth Factor) (Human) ELISA	45-EGFHU-E01-AL
Eotaxin (Mouse) ELISA	61-EOTMS-E01-AL
FGF Basic (Fibroblast Growth Factor) (Human) ELISA	45-FGFHU-E01-AL
Fibronectin (Human) ELISA	61-FIBHU-E01-AL
Galectin-3 (Human) ELISA	61-GALHU-E01-AL
G-CSF (Granulocyte Colony Stimulating Factor) (Human) ELISA	45-GCSHU-E01-AL
GM-CSF (Granulocyte Monocyte Colony Stimulating Factor) (Human) ELISA	61-GMCHU-E01-AL
GM-CSF (Granulocyte Monocyte Colony Stimulating Factor) (Mouse) ELISA	61-GMCMS-E01-AL
GM-CSF (Granulocyte Monocyte Colony Stimulating Factor) (Rat) ELISA	61-GMCRT-E01-AL
Granzyme A (Human) ELISA	61-GRAHU-E01-AL
Granzyme B (Human) ELISA	61-GRBHU-E01-AL
HER-2 (Human) ELISA	61-HERHU-E01-AL
IFN-gamma (Human) ELISA	61-IFGHU-E01-AL
IFN-gamma (Monkey) ELISA	45-IFNMK-E01-AL
IFN-gamma (Mouse) ELISA	61-IFGMS-E01-AL
IFN-gamma (Porcine) ELISA	61-IFGPO-E01-AL
IFN-gamma (Rat) ELISA	61-IFGRT-E01-AL
IL-1alpha (Human) ELISA	61-I1AHU-E01-AL
IL-1alpha (Mouse) ELISA	61-I1AMS-E01-AL
IL-1RA (Human) ELISA	61-1RAHU-E01-AL
IL-1 alpha (Rat) ELISA	61-I1ART-E01-AL
IL-1 beta (Rat) ELISA	61-I1BRT-E01-AL
IL-10 (Human) ELISA	61-I10HU-E01-AL
IL-10 (Human) Ultrasensitive ELISA	45-I10HUU-E01-AL
IL-10 (Monkey) ELISA	61-I10MK-E01-AL
IL-10 (Mouse) ELISA	61-I10MS-E01-AL
IL-10 (Porcine) ELISA	45-I10PO-E01-AL
IL-10 (Rat) ELISA	61-I10RT-E01-AL
IL-12 (p70) (Human) ELISA	61-P12HU-E01-AL

IL-12 (p70) (Monkey) ELISA	61-P12MK-E01-AL	sCD28 (Human) ELISA	61-C28HU-E01-AL
IL-12 (p70) (Mouse) ELISA	61-P12MS-E01-AL	sCD30 (Human) ELISA	61-C30HU-E01-AL
IL-12/IL-23 (p40) (Human) ELISA	61-ILPHU-E01-AL	sCD40 (Human) ELISA	61-C40HU-E01-AL
IL-13 (Human) ELISA	61-I13HU-E01-AL	sCD40L (Human) ELISA	61-40LHU-E01-AL
IL-13 (Mouse) ELISA	61-I13MS-E01-AL	sCD40L (Mouse) ELISA	61-40LMS-E01-AL
IL-15/IL-15R (Mouse) ELISA	61-I15MS-E01-AL	sCD44std (Human) ELISA	61-C44HU-E01-AL
IL-17A (Human) ELISA	61-ILAHU-E01-AL	sCD44var (v5) (Human) ELISA	61-445HU-E01-AL
IL-17A (Mouse) ELISA	61-ILAMS-E01-AL	sCD44var (v6) (Human) ELISA	61-446HU-E01-AL
IL-17A (Rat) ELISA	61-ILART-E01-AL	sCD-8 (Human) ELISA	61-CD8HU-E01-AL
IL-17AF (Human) ELISA	61-IAFHU-E01-AL	Sclerostin (Mouse) ELISA	41-SCLMS-E01-AL
IL-17AF (Mouse) ELISA	61-IAFMS-E01-AL	sE-selectin (Human) ELISA	61-ESEHU-E01-AL
IL-17F (Human) ELISA	61-ILFHU-E01-AL	sE-selectin (Monkey) ELISA	61-ESEMK-E01-AL
IL-17F (Mouse) ELISA	61-ILFMS-E01-AL	sFas Ligand (Human) ELISA	61-FALHU-E01-AL
IL-18 (Porcine) ELISA	61-I18PO-E01-AL	sICAM-1 (Intercellular Adhesion Molecule-1) (Monkey) ELISA	61-IC1MK-E01-AL
IL-2 (Human) ELISA	61-IL2HU-E01-AL	sICAM-1 (Intercellular Adhesion Molecule-1) Ultrasensitive (Human) ELISA	61-IC1HUU-E01-AL
IL-2 (Monkey) ELISA	61-IL2MK-E01-AL	sICAM-2 (Intercellular Adhesion Molecule-2) (Human) ELISA	61-IC2HU-E01-AL
IL-2 (Mouse) ELISA	61-IL2MS-E01-AL	sICAM-3 (Intercellular Adhesion Molecule-3) (Human) ELISA	61-IC3HU-E01-AL
IL-2 (Rat) ELISA	61-IL2RT-E01-AL	sIL-2R (Human) ELISA	61-I2RHU-E01-AL
IL-21 (Human) ELISA	61-I21HU-E01-AL	sIL-6R (Human) ELISA	61-I6RHU-E01-AL
IL-22 (Human) ELISA	61-I22HU-E01-AL	sLIF-R (Leukemia Inhibitory Factor Receptor) (gp190) (Human) ELISA	61-LGPHU-E01-AL
IL-22 (Mouse) ELISA	61-I22MS-E01-AL	sL-selectin (Human) ELISA	61-LSEHU-E01-AL
IL-23 (Human) ELISA	61-I23HU-E01-AL	sPECAM-1 (Platelet Endothelial Cell Adhesion Molecule) (Human) ELISA	61-PECHU-E01-AL
IL-23 (Mouse) ELISA	61-I23MS-E01-AL	sPECAM-1 (Platelet Endothelial Cell Adhesion Molecule) (Monkey) ELISA	61-PECMK-E01-AL
IL-27 (Human) ELISA	61-I27HU-E01-AL	sP-selectin (Human) ELISA	61-PSEHU-E01-AL
IL-29 (IFN-lambda1) (Human) ELISA	61-IFLHU-E01-AL	sP-selectin (Monkey) ELISA	61-PSEMK-E01-AL
IL-3 (Human) ELISA	45-IL3HU-E01-AL	sPSGL-1 (P-Selectin Glycoprotein Ligand-1) (Human) ELISA	61-PSGHU-E01-AL
IL-31 (Human) ELISA	61-I31HU-E01-AL	sTNF-R (60kDa) (Human) ELISA	61-TN6HU-E01-AL
IL-33 (Human) ELISA	61-I33HU-E01-AL	sTNF-R (80kDa) (Human) ELISA	61-TN8HU-E01-AL
IL-4 (Human) ELISA	61-IL4HU-E01-AL	sTNF-R I (Monkey) ELISA	61-TR1MK-E01-AL
IL-4 (Mouse) ELISA	61-IL4MS-E01-AL	sVAP-1 (Human) ELISA	61-VAPHU-E01-AL
IL-4 (Porcine) ELISA	45-IL4PO-E01-AL	sVCAM-1 (Human) ELISA	61-VCAHU-E01-AL
IL-4 (Rat) ELISA	61-IL4RT-E01-AL	sVE-cadherin (Human) ELISA	61-VECHU-E01-AL
IL-4 (Rat) ELISA	45-IL4RT-E01-AL	sVE-cadherin (Monkey) ELISA	61-VECMK-E01-AL
IL-5 (Human) ELISA	61-IL5HU-E01-AL	sVEGF-R1/FLT-1 (Human) ELISA	61-VGRHU-E01-AL
IL-5 (Mouse) ELISA	61-IL5MS-E01-AL	TGF-beta 2 (Human) ELISA	61-TB2HU-E01-AL
IL-6 (Monkey) ELISA	61-IL6MK-E01-AL	TGF-beta 1 (Human) ELISA	61-TB1HU-E01-AL
IL-6 (Mouse) ELISA	61-IL6MS-E01-AL	TGF-beta 1 (Mouse) ELISA	61-TB1MS-E01-AL
IL-6 (Rat) ELISA	61-IL6RT-E01-AL	TGF-beta 1 (Rat) ELISA	61-TB1RT-E01-AL
IL-6 (Human) ELISA	45-IL6HU-E01-AL	TIE-2 (Human) ELISA	61-TIEHU-E01-AL
IL-6 (Human) ELISA	45-IL6HU-E05-AL	TIMP-1 (Human) ELISA	61-TIMHU-E01-AL
IL-8 (Human) ELISA	61-IL8HU-E01-AL	TNF-alpha (Human) ELISA	45-TNFHU-E01-AL
IL-8 (Human) ELISA, Ultrasensitive	45-IL8HUU-E01-AL	TNF-alpha (Human) ELISA, 5 pack	45-TNFHU-E05-AL
IL-8 (Monkey) ELISA	61-IL8MK-E01-AL	TNF-alpha (Human) ELISA, Ultrasensitive	45-TNFHUU-E01-AL
IL-8 (Porcine) ELISA	45-IL8PO-E01-AL	TNF-alpha (Human) ELISA, Ultrasensitive, 5 pack	45-TNFHUU-E05-AL
IL-9 (Human) ELISA	61-IL9HU-E01-AL	TNF-alpha (Monkey) ELISA	61-TNAMK-E01-AL
IP-10 (Mouse) ELISA	61-IP1MS-E01-AL	TNF-alpha (Mouse) ELISA	61-TNFMS-E01-AL
LIF (Leukemia Inhibitory Factory) (Human) ELISA	61-LIFHU-E01-AL	TNF-alpha (Porcine) ELISA	45-TNFPO-E01.1-AL
MCP-1 (Monocyte Chemotactic Protein-1) (Human) ELISA	61-MCPHU-E01-AL	TNF-alpha (Rat) ELISA	61-TNART-E01-AL
MCP-1 (Monocyte Chemotactic Protein-1) (Mouse) ELISA	61-MCPHMS-E01-AL	TNF-beta (Human) ELISA	61-TNBHU-E01-AL
MCP-1 (Monocyte Chemotactic Protein-1) (Rat) ELISA Kit	45-MCPRT-E01-AL	t-PA (Tissue Plasminogen Activator) (Human) ELISA	61-TPAHU-E01-AL
MMP-13 (Matrix Metalloproteinase-13) (Human) ELISA	61-M13HU-E01-AL	TRAIL (Human) ELISA	61-TRAHU-E01-AL
MMP-3 (Matrix Metalloproteinase-3) (Human) ELISA	48-MP3HU-E01-AL	Vascular Endothelial Growth Factor (VEGF) (Human) ELISA	45-VEGHU-E01-AL
MMP-9 (Matrix Metalloproteinase-9) (Human) ELISA	61-MP9HU-E01-AL	VEGF-A (Vascular Endothelial Growth Factor-A) (Human) ELISA	61-VGAHU-E01-AL
p53 (Human) ELISA	61-P53HU-E01-AL	VEGF-A (Vascular Endothelial Growth Factor-A) (Mouse) ELISA	61-VGAMS-E01-AL
PAI-1 (Human) ELISA	61-PAIHU-E01-AL	VEGF-C (Vascular Endothelial Growth Factor-C) (Rat) ELISA	61-VGCRT-E01-AL
PDGF-BB (Platelet Derived Growth Factor) (Human) ELISA	61-PDGHU-E01-AL	VEGF-R2/KDR (Human) ELISA	61-KDRHU-E01-AL
PMN-Elastase (Human) ELISA	61-PMNHU-E01-AL	VEGF-R3/FLT-4 (Human) ELISA	61-FLTHU-E01-AL
RANTES/CCL5 (Human) ELISA	45-RANHU-E01-AL		
Resistin (Human) ELISA	61-RESHU-E01-AL		
s90K/Mac-2BP (Human) ELISA	61-MACHU-E01-AL		
sAPO-1/Fas (Human) ELISA	61-APOHU-E01-AL		
sCD134 (OX40) (Human) ELISA	61-134HU-E01-AL		
sCD137 (Human) ELISA	61-137HU-E01-AL		
sCD152/CTLA-4 (Human) ELISA	61-CTLHU-E01-AL		
sCD23 (Human) ELISA	61-C23HU-E01-AL		
sCD26 (Human) ELISA	61-C26HU-E01-AL		

Lipoprotein Metabolism Research

Lipoproteins are important assemblies of proteins and lipids that have implications in cardiovascular and related diseases. Most prominent examples are the high-density (HDL) and low-density (LDL) lipoproteins which serve as carriers for fats in the blood stream. The lipoprotein particles carry the hydrophilic groups like phospholipids, cholesterol and apolipoproteins on the surface while triglycerides and cholesterol esters are carried internally.



Basic structure of LDL or HDL.

Based on their behaviour in electrophoresis and ultracentrifugation lipoproteins are classified as follows:

- **Chylomicrons:** Carriers for triglycerides from intestines to the liver, skeletal muscle and adipose tissue.
- **Very-low-density lipoproteins (VLDL):** Carriers for newly synthesized triglycerides from the liver to adipose tissue.
- **Low-density lipoproteins (LDL)** carry cholesterol from the liver to cells of the body. LDLs are sometimes referred to as the “bad cholesterol” lipoprotein.
- **High-density lipoproteins (HDL)** collect cholesterol from the body’s tissues and take it back to the liver often referred to as the “good cholesterol” lipoprotein.

The apolipoproteins can be subdivided into two major types: Apolipoproteins B form low-density lipoprotein particles. These proteins have mostly beta-sheet structure and associate irreversibly with lipid droplets.

The other apolipoproteins form high-density lipoprotein particles. They have a largely alpha-helical structure and their association with lipid droplets is reversible.

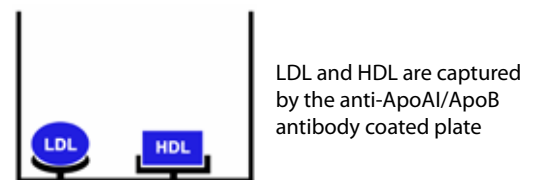
The Human Apo ELISA Kits provide a convenient and sensitive method for quantifying specific apolipoproteins in serum, plasma or other biological fluids. We offer a variety of highly sensitive apolipoprotein ELISA kits and cholesterol assays for the study of this important area of metabolism research.

Lipoprotein Assays

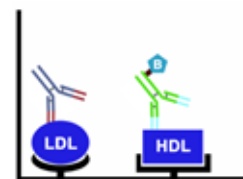
Human ApoAI and ApoB Duplex ELISA Kit

- Quantify two apolipoproteins from the same sample
- Detect minute amounts of ApoAI and ApoB
- Compare results to known ApoAI and ApoB standards

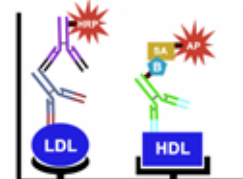
As the primary protein components of HDL and LDL respectively, ApoAI and ApoB are arguably the most significant apolipoproteins in lipid metabolism research. Cell Biolabs’ Human ApoAI and ApoB Duplex ELISA Kit provides a convenient tool to quantify both proteins in a single serum or plasma sample. Unlike other multiplex assays, the ApoAI and ApoB Duplex ELISA does not require a luminometer for detection. Simply quantify both proteins sequentially using a standard colorimetric ELISA plate reader.



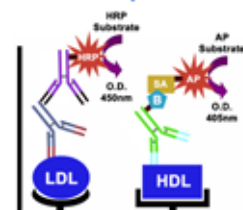
LDL and HDL are captured by the anti-ApoAI/ApoB antibody coated plate



Captured LDL and HDL are incubated with anti-ApoAI and biotinylated anti-ApoAI primary antibodies



Secondary antibody-HRP and Streptavidin-AP conjugates are added for detection



HRP and AP substrates are added sequentially and read individually on a microplate reader

Human ApoAI and ApoB Duplex ELISA Kit assay principle.

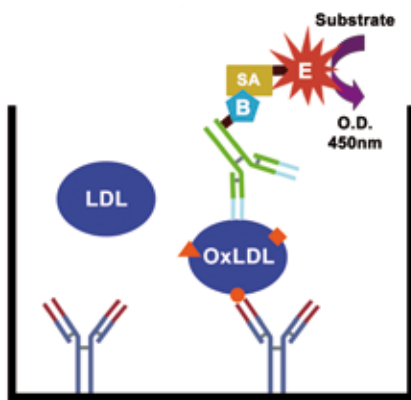
Both ApoAI and ApoB are captured individually from a single serum or plasma sample. A mixture of primary antibodies is added, followed by a mixture of enzyme conjugates. AP substrate is added to quantify ApoAI followed by the addition of HRP substrate to quantify ApoB.

OxiSelect Human Oxidized LDL ELISA

- Detect as little as 50 ng/mL
- Compare unknown samples with provided copper-oxidized LDL standard

Low density lipoprotein (LDL) contains a hydrophobic core of various lipids surrounded by one molecule of Apolipoprotein B-100 (ApoB-100), which promotes solubility of the LDL in blood. LDL is often described as “bad” cholesterol, but it is even more dangerous in the human body when it becomes oxidized. Oxidized LDL (OxLDL) is more reactive with surrounding tissues and can collect within the inner lining of arteries. The majority of oxidized residues in LDL are malondialdehyde (MDA) adducts.

Cell Biolabs’ OxiSelect Human Oxidized LDL ELISA Kit is designed for the detection and quantitation of MDA-modified LDL in human plasma or serum.



OxiSelect Human Oxidized LDL ELISA detection step.

Cholesterol Assays

Total Cholesterol Assay Kit

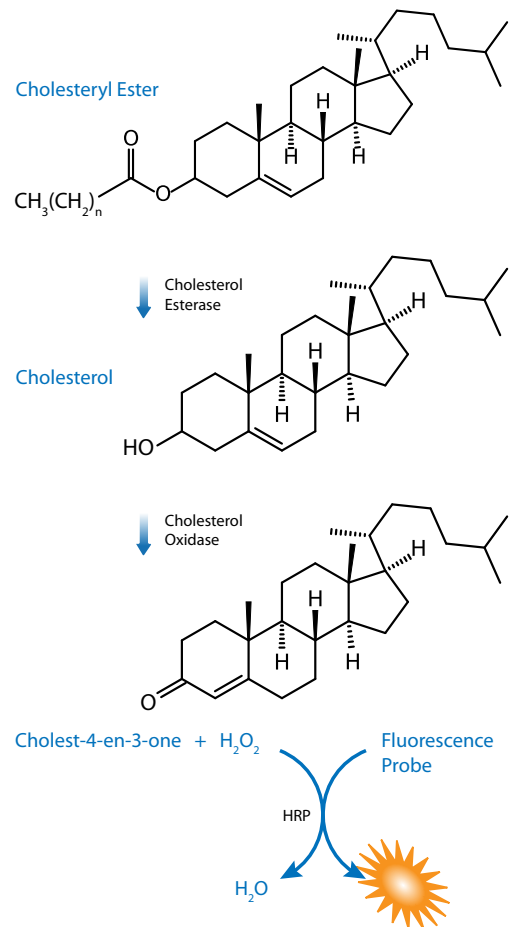
Cholesterol exists within lipoproteins in two forms: a free alcohol and a fatty cholesteryl ester, which is the predominant form of cholesterol transport and storage. Cell Biolabs’ Total Cholesterol Assay Kit is a simple fluorometric assay that measures the amount of cholesterol in serum, plasma, cell lysates or tissue homogenates. In the presence of cholesterol esterase, the assay will measure total cholesterol in both forms. In the absence of the esterase, the assay will measure only free cholesterol.

HDL and LDL/VLDL Cholesterol Assay Kit

The HDL and LDL/VLDL Cholesterol Assay Kit is similar in principle to the Total Cholesterol Assay Kit, but allows you to quantify HDL and LDL/VLDL separately in serum samples. After separating samples into HDL and LDL/VLDL fractions, the fluorometric assay is run according to the assay principle for the Total Cholesterol Assay Kit shown above.

In the presence of cholesterol esterase, the assay will measure total cholesterol in both free cholesterol and cholesteryl ester forms. In the absence of the esterase, the assay will measure

only free cholesterol. Quantitation of cholesteryl ester only may be calculated by subtracting free cholesterol from total cholesterol levels. This kit is available for fluorometric as well as for colorimetric detection.



Assay principle for the Total Cholesterol Assay Kit and the HDL and LDL/VLDL Cholesterol Assay Kit.

When the cholesterol esterase is used, total cholesterol (free + cholesteryl esters) can be measured. Omitting this step will measure only the free cholesterol fraction.

Apolipoprotein / Cholesterol Assays

Human ApoAI ELISA Kit	STA-362-CB
Human ApoAII ELISA Kit	STA-363-CB
Human ApoB ELISA Kit	STA-368-CB
Human ApoCI ELISA Kit	STA-364-CB
Human ApoCII ELISA Kit	STA-365-CB
Human ApoCIII ELISA Kit	STA-366-CB
Human ApoE ELISA Kit	STA-367-CB
Human ApoAI and ApoB Duplex ELISA Kit	STA-361-CB
OxiSelect Human Oxidized LDL ELISA Kit, MDA-LDL Quantification	STA-369-CB
Total Cholesterol Assay Kit (Colorimetric)	STA-384-CB
Total Cholesterol Assay Kit (Fluorometric)	STA-390-CB
HDL and LDL/VLDL Cholesterol Assay Kit	STA-391-CB

www.biocat.com/lipid_metabolism

Cellular Metabolism Research

Our partner BioVision provides a complete selection of assays covering all aspects of cellular metabolism. Metabolites can be measured by fluorometric (Ex/Em = 535/587 nm) and colorimetric ($\lambda = 570$ nm) methods. For a complete overview, please visit our website. If you can't find the assay you are looking for, please send a message to info@biocat.com or call us: +49 (0) 6221 7141516.

www.biocat.com/metabolism-assays

Carbohydrate Assays

Amylase Activity Assay Kit	K711-100-BV
D-Mannitol Colorimetric Assay Kit	K644-100-BV
D-Sorbitol Colorimetric Assay Kit	K631-100-BV
Free Glycerol Assay Kit	K630-100-BV
Free Glycerol Colorimetric Assay Kit II	K634-100-BV
Fructose Assay Kit	K619-100-BV
Galactose and Lactose Assay Kit	K617-100-BV
Galactose Assay Kit	K621-100-BV
Glucose and Sucrose Assay Kit	K616-100-BV
Glucose Assay Kit	K606-100-BV
Glucose Assay Kit II100 Assays	K686-100-BV
Glucose Uptake Colorimetric Assay Kit	K676-100-BV
Glucose Uptake Fluorometric Assay Kit	K666-100-BV
Glucose-1-Phosphate (G1P) Colorimetric Assay Kit	K697-100-BV
Glucose-6-Phosphate Assay Kit	K657-100-BV
Glucose-6-Phosphate Dehydrogenase Activity Assay Kit	K757-100-BV
Glycogen Assay Kit	K646-100-BV
Glycogen Colorimetric Assay Kit II100 assays	K648-100-BV
Hexokinase Colorimetric Assay Kit	K789-100-BV
Lactose Assay Kit	K624-100-BV
Maltose and Glucose Assay Kit	K618-100-BV
Maltose Assay Kit	K628-100-BV
Phosphofruktokinase (PFK) Activity Colorimetric Assay Kit	K776-100-BV
Phosphoglucomutase Colorimetric Assay Kit	K774-100-BV
Phosphoglucose Isomerase Colorimetric Assay Kit	K775-100-BV
PicoProbe™ Fructose Assay Kit	K611-100-BV
PicoProbe™ Fructose-6-Phosphate Assay Kit	K689-100-BV
PicoProbe™ Glucose Assay Kit	K688-100-BV
PicoProbe™ Glucose-6-Phosphate Assay Kit	K687-100-BV
Sialic Acid (NANA) Assay Kit	K566-100-BV
Starch Assay Kit	K647-100-BV
Sucrose Assay Kit	K626-100-BV
Total Carbohydrate Assay Kit	K645-100-BV

Amino Acid Assays

Alanine Assay Kit	K652-100-BV
Asparaginase Activity Assay Kit	K754-100-BV
Aspartate Assay Kit	K552-100-BV
Branched Chain Amino Acid (Leu/Ile/Val) Assay Kit	K564-100-BV
Glutamate Assay Kit	K629-100-BV
Hydroxyproline Assay Kit	K555-100-BV

L-Amino Acid Quantitation Kit	K639-100-BV
Phenylalanine Assay Kit	K572-100-BV
Urea Assay Kit	K375-100-BV

Assays for Coenzymes and Cofactors

ADP Colorimetric Assay Kit II	K356-100-BV
ADP Colorimetric/Fluorometric Assay Kit	K355-100-BV
ApoSENSOR™ ADP/ATP Ratio Assay Kit	K255-200-BV
ApoSENSOR™ Cell Viability Assay Kit	K254-1000-BV
ApoSENSOR™ Cell Viability Assay Kit	K254-200-BV
ATP Colorimetric/Fluorometric Assay Kit	K354-100-BV
Coenzyme A (CoA) Assay Kit	K367-100-BV
FAD Assay Kit	K357-100-BV
Glutathione (GSH/GSSG/Total) Assay Kit	K264-100-BV
Glutathione Colorimetric Assay Kit	K261-100-BV
Glutathione Fluorometric Assay Kit	K251-100-BV
Glutathione Peroxidase Activity Assay Kit	K762-100-BV
Glutathione Reductase Activity Assay Kit	K761-200-BV
Hemin Assay Kit	K672-100-BV
NAD/NADH Quantitation Kit	K337-100-BV
NADP/NADPH Quantitation Kit	K347-100-BV
PicoProbe™ Acetyl-CoA Assay Kit	K317-100-BV

Lipid Metabolism Assays

Acetate Colorimetric Assay Kit	K658-100-BV
Adipogenesis Assay Kit	K610-100-BV
Aldehyde Dehydrogenase Activity Colorimetric Assay Kit	K731-100-BV
beta-Hydroxybutyrate (β -HB) Assay Kit	K632-100-BV
CETP Activity Assay Kit	K601-100-BV
CETP Inhibitor Drug Screening Kit	K602-100-BV
Cholesterol/Cholesteryl Ester Quantitation Assay Kit II	K623-100-BV
Cholesterol/Cholesteryl Ester Quantitation Kit	K603-100-BV
CTRP5 (human) Competitive ELISA Kit	K4925-100-BV
Free Fatty Acid Quantification Kit	K612-100-BV
Free Glycerol Assay Kit	K630-100-BV
Free Glycerol Colorimetric Assay Kit II	K634-100-BV
FTO (human intracellular) ELISA Kit	K4921-100-BV
FTO (mouse intracellular) ELISA Kit	K4922-100-BV
HDL and LDL/VLDL Quantification Kit	K613-100-BV
Lipase Activity Assay Kit	K722-100-BV
Lipase Activity Assay Kit II	K723-100-BV
Lipase Activity Assay Kit III	K724-100-BV
Nampt (Visfatin/PBEF) (human) Intracellular ELISA Kit	K4909-100-BV
Nampt (Visfatin/PBEF) (mouse/rat) Intracellular ELISA Kit	K4910-100-BV
Nampt (Visfatin/PBEF) (mouse/rat) Serum ELISA Kit	K4908-100-BV
Phosphatidylcholine Assay Kit	K576-100-BV
PicoProbe™ Aldehyde Dehydrogenase Activity Assay Kit	K741-100-BV
PLTP Activity Assay Kit	K604-100-BV
PLTP Inhibitor Drug Screening Kit	K605-100-BV
RBP4 (human) Competitive ELISA Kit	K4911-100-BV
RBP4 (human) ELISA Kit	K4912-100-BV
RBP4 (mouse/rat) ELISA Kit	K4913-100-BV
Triglyceride Quantification Kit	K622-100-BV
Visfatin (human) Elisa Assay Kit	K4907-100-BV

Intermediary Metabolism Assays

Acetate Colorimetric Assay Kit	K658-100-BV
Aconitase Activity Assay Kit	K716-100-BV
Alanine Aminotransferase (ALT or SGPT) Activity Assay Kit	K752-100-BV
Alcohol Dehydrogenase Activity Assay Kit	K787-100-BV
Aldehyde Dehydrogenase Activity Colorimetric Assay Kit	K731-100-BV
Alpha-Ketoglutarate Assay Kit	K677-100-BV
Amylase Activity Assay Kit	K711-100-BV
Aspartate Aminotransferase (AST or SGOT) Activity Assay Kit	K753-100-BV
Choline/Acetylcholine Quantification Kit	K615-100-BV
Citrate Assay Kit	K655-100-BV
Coenzyme A (CoA) Assay Kit	K367-100-BV
D-Lactate Colorimetric Assay Kit	K667-100-BV
Formate Assay Kit	K653-100-BV
Free Glycerol Assay Kit	K630-100-BV
Free Glycerol Colorimetric Assay Kit II	K634-100-BV
Fructose Assay Kit	K619-100-BV
Fumarate Assay Kit	K633-100-BV
Glucose and Sucrose Assay Kit	K616-100-BV
Glucose Assay Kit	K606-100-BV
Glucose Assay Kit II	K686-100-BV
Glucose Dehydrogenase Activity Assay Kit	K786-100-BV
Glucose Oxidase Activity Assay Kit	K788-100-BV
Glucose-1-Phosphate (G1P) Colorimetric Assay Kit	K697-100-BV
Glucose-6-Phosphate Assay Kit	K657-100-BV
Glucose-6-Phosphate Dehydrogenase Activity Assay Kit	K757-100-BV
Glutamate Dehydrogenase (GDH) Activity Assay Kit	K729-100-BV
Glutathione (GSH/GSSG/Total) Assay Kit	K264-100-BV
Glutathione Colorimetric Assay Kit	K261-100-BV
Glutathione Fluorometric Assay Kit	K251-100-BV
Glutathione Peroxidase Activity Assay Kit	K762-100-BV
Glutathione Reductase Activity Assay Kit 200 assays	K761-200-BV
Isocitrate Assay Kit	K656-100-BV
Isocitrate Dehydrogenase Activity Assay Kit	K756-100-BV
L-Carnitine Assay Kit	K642-100-BV
Lactate Assay Kit	K607-100-BV
Lactate Assay Kit II	K627-100-BV
Lactate Dehydrogenase (LDH) Activity Assay Kit 500 assays	K726-500-BV
LDH-Cytotoxicity Assay Kit 400 assays	K311-400-BV
LDH-Cytotoxicity Assay Kit II 500 assays	K313-500-BV
Lipase Activity Assay Kit	K722-100-BV
Lipase Activity Assay Kit II	K723-100-BV
Lipase Activity Assay Kit III	K724-100-BV
Malate Assay Kit	K637-100-BV
Myeloperoxidase (MPO) Colorimetric Activity Assay Kit	K744-100-BV
NAD/NADH Quantitation Kit	K337-100-BV
NADP/NADPH Quantitation Kit	K347-100-BV
Oxaloacetate Assay Kit	K659-100-BV
Phosphofructokinase (PFK) Activity Colorimetric Assay Kit	K776-100-BV
Phosphoglucomutase Colorimetric Assay Kit	K774-100-BV
Phosphoglucose Isomerase Colorimetric Assay Kit	K775-100-BV
PicoProbe™ Acetyl-CoA Assay Kit	K317-100-BV
PicoProbe™ Aldehyde Dehydrogenase Activity Assay Kit	K741-100-BV
PicoProbe™ Fructose Assay Kit	K611-100-BV
PicoProbe™ Fructose-6-Phosphate Assay Kit	K689-100-BV
PicoProbe™ Glucose Assay Kit	K688-100-BV

PicoProbe™ Lactate Assay Kit	K638-100-BV
PicoProbe™ Phosphate Assay Kit	K419-100-BV
Pyruvate Assay Kit	K609-100-BV
Pyruvate Kinase Activity Assay Kit	K709-100-BV
Sarcosine Assay Kit	K636-100-BV
Total Carbohydrate Assay Kit	K645-100-BV
Xanthine/Hypoxanthine Assay Kit	K685-100-BV

Oxidative Stress Assays

Ascorbic Acid Assay Kit	K661-100-BV
Ascorbic Acid Assay Kit II (FRASC)	K671-100-BV
Catalase Activity Assay Kit	K773-100-BV
Ethanol Assay Kit	K620-100-BV
Glutathione (GSH/GSSG/Total) Assay Kit	K264-100-BV
Glutathione Colorimetric Assay Kit	K261-100-BV
Glutathione Fluorometric Assay Kit	K251-100-BV
Glutathione Peroxidase Activity Assay Kit	K762-100-BV
Glutathione Reductase Activity Assay Kit	K761-200-BV
GST Colorimetric Activity Assay Kit	K263-100-BV
GST Fluorometric Activity Assay Kit	K260-100-BV
HAT Activity Colorimetric Assay Kit	K332-100-BV
HDAC Colorimetric Activity Assay Kit	K331-100-BV
HDAC Fluorometric Activity Assay Kit	K330-100-BV
HDAC Inhibitor Drug Screening Kit	K340-100-BV
Hydrogen Peroxide Assay Kit	K265-200-BV
Inosine Assay Kit	K712-100-BV
InSitu HDAC Activity Fluorometric Assay Kit	K339-100-BV
Lipid Peroxidation (MDA) Assay Kit	K739-100-BV
Myeloperoxidase (MPO) Colorimetric Activity Assay Kit	K744-100-BV
Myeloperoxidase (MPO) Fluorometric Activity Assay Kit	K745-100-BV
Nitric Oxide Colorimetric Assay Kit	K262-200-BV
Nitric Oxide Fluorometric Assay Kit	K252-200-BV
NQO1 (human intracellular) ELISA Kit	K4926-100-BV
Peroxidase Activity Assay Kit	K772-100-BV
Superoxide Dismutase (SOD) Activity Assay Kit	K335-100-BV
Thioredoxin Reductase Assay Kit	K763-100-BV
Total Antioxidant Capacity (TAC) Assay Kit	K274-100-BV
Uric Acid Assay Kit	K608-100-BV
Xanthine Oxidase Activity Assay Kit	K710-100-BV

Inorganic Ions

Ammonia Assay Kit	K370-100-BV
Ammonia Assay Kit II (Modified Berthelot)	K470-100-BV
Calcium Colorimetric Assay Kit	K380-250-BV
Chloride Assay Kit	K530-100-BV
Cobalt Assay Kit	K505-100-BV
Iron Assay Kit	K390-100-BV
Magnesium Assay Kit	K385-100-BV
Nickel Assay Kit	K510-100-BV
Nitric Oxide Colorimetric Assay Kit	K262-200-BV
Nitric Oxide Fluorometric Assay Kit	K252-200-BV
Phosphate Colorimetric Assay Kit	K410-500-BV
Phosphate Fluorometric Assay Kit	K420-100-BV
PicoProbe™ Phosphate Assay Kit	K419-100-BV
Zinc Assay Kit	K387-100-BV

Serum Component Assays

Acid Phosphatase Activity Colorimetric Assay Kit	K411-500 -BV
Acid Phosphatase Activity Fluorometric Assay Kit	K421-500 -BV
Alkaline Phosphatase Activity Colorimetric Assay Kit	K412-500 -BV
Alkaline Phosphatase Activity Fluorometric Assay Kit	K422-500 -BV
Cholesterol/Cholesteryl Ester Quantitation Kit	K603-100-BV
Creatine Assay Kit	K635-100-BV
Creatine Kinase Activity Colorimetric Assay Kit	K777-100-BV
Creatinine Assay Kit	K625-100-BV
D-Lactate Colorimetric Assay Kit	K667-100-BV
Formate Assay Kit	K653-100-BV
Glucose Assay Kit	K606-100-BV
Glucose Assay Kit II	K686-100-BV
Glucose-6-Phosphate Assay Kit	K657-100-BV
HDL and LDL/VLDL Quantification Kit	K613-100-BV
Inosine Assay Kit	K712-100-BV
Iron Assay Kit	K390-100-BV
Lactate Assay Kit	K607-100-BV
Lactate Assay Kit II	K627-100-BV
Lipase Activity Assay Kit III	K724-100-BV
PicoProbe™ Fructose Assay Kit	K611-100-BV
PicoProbe™ Fructose-6-Phosphate Assay Kit	K689-100-BV
PicoProbe™ Glucose Assay Kit	K688-100-BV
PicoProbe™ Glucose-6-Phosphate Assay Kit	K687-100-BV
PicoProbe™ Lactate Assay Kit	K638-100-BV
PicoProbe™ Phosphate Assay Kit	K419-100-BV
Triglyceride Quantification Kit	K622-100-BV

Other Metabolism-related Assays

Calpain Activity Assay Kit	K240-100-BV
cAMP Activity Assay Kit	K371-100-BV
Cathepsin B Activity Assay Kit	K140-100-BV
Cathepsin D Activity Assay Kit	K143-100-BV
Cathepsin H Activity Assay Kit	K145-100-BV
Cathepsin K Activity Assay Kit	K141-100-BV
Cathepsin L Activity Assay Kit	K142-100-BV
Cathepsin S Activity Assay Kit	K144-100-BV
cGMP Activity Assay Kit	K372-100-BV
DPP4 Activity Assay Kit	K779-100-BV
DPP4 Inhibitor Screening Kit	K780-100-BV
Formate Assay Kit	K653-100-BV
Gamma Glutamyl Transferase (GGT) Activity Colorimetric Assay Kit	K784-100-BV
Gamma Glutamyl Transferase (GGT) Activity Fluorometric Assay Kit	K785-100-BV
HDAC3 Activity Assay Kit	K343-100-BV

HDAC3 Inhibitor Screening Kit	K363-100-BV
HDAC8 Activity Assay Kit	K348-100-BV
HDAC8 Inhibitor Screening Kit	K368-100-BV
KinaseSTAR JNK Activity Assay Kit	K431-40-BV
KinaseSTAR JNK Activity Screening Kit	K430-40-BV
Lipid Peroxidation (MDA) Assay Kit	K739-100-BV
MMP-1 Inhibitor Screening Kit	K794-100-BV
MMP-3 Activity Assay Kit	K783-100-BV
MMP-3 Inhibitor Screening Kit	K793-100-BV
Neutrophil Elastase Inhibitor Screening Kit	K782-100-BV
PAH (p-Aminohippuric Acid) Assay Kit	K860-100-BV
PEP Colorimetric/Fluorometric Assay Kit	K365-100-BV
PhosphoSeek™ PDE5A Assay Kit	K705-400-BV
PhosphoSeek™ PI3 Kinase Assay Kit	K706-400-BV
PhosphoSeek™ PTP1B Assay Kit	K707-400-BV
PhosphoSeek™ Sphingosine Kinase Assay Kit	K708-400-BV
Protease Activity Assay Kit	K781-100-BV
Proteasome Activity Assay Kit	K245-100-BV
Protein Carbonyl Content Assay Kit	K830-100-BV
TACE Inhibitor Screening Assay Kit	K366-100-BV
Xanthine/Hypoxanthine Assay Kit	K685-100-BV

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