

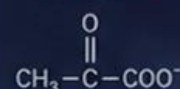
Cellular Metabolism Integration

Connecting Energy, Redox Balance, and Metal Homeostasis

GLYCOLYSIS

Glucose
↓
Glucose-6-P
↓
Fructose-6-P
↓
Fructose-1,6-BP
↓
Glyceraldehyde-3-P
↓
1,3-BPG
↓
PEP
↓
Pyruvate

PYRUVATE



TCA CYCLE

Citrate
↙ ↘
Oxaloacetate Isocitrate
↙ ↘
Malate α-Ketoglutarate
↙ ↘
Fumarate Succinyl-CoA

MITOCHONDRIA

- Oxidative Phosphorylation
- ATP Production
- Metabolic Integration

LIPID DROPLETS

- Energy Storage
- Lipid Metabolism
- Signaling

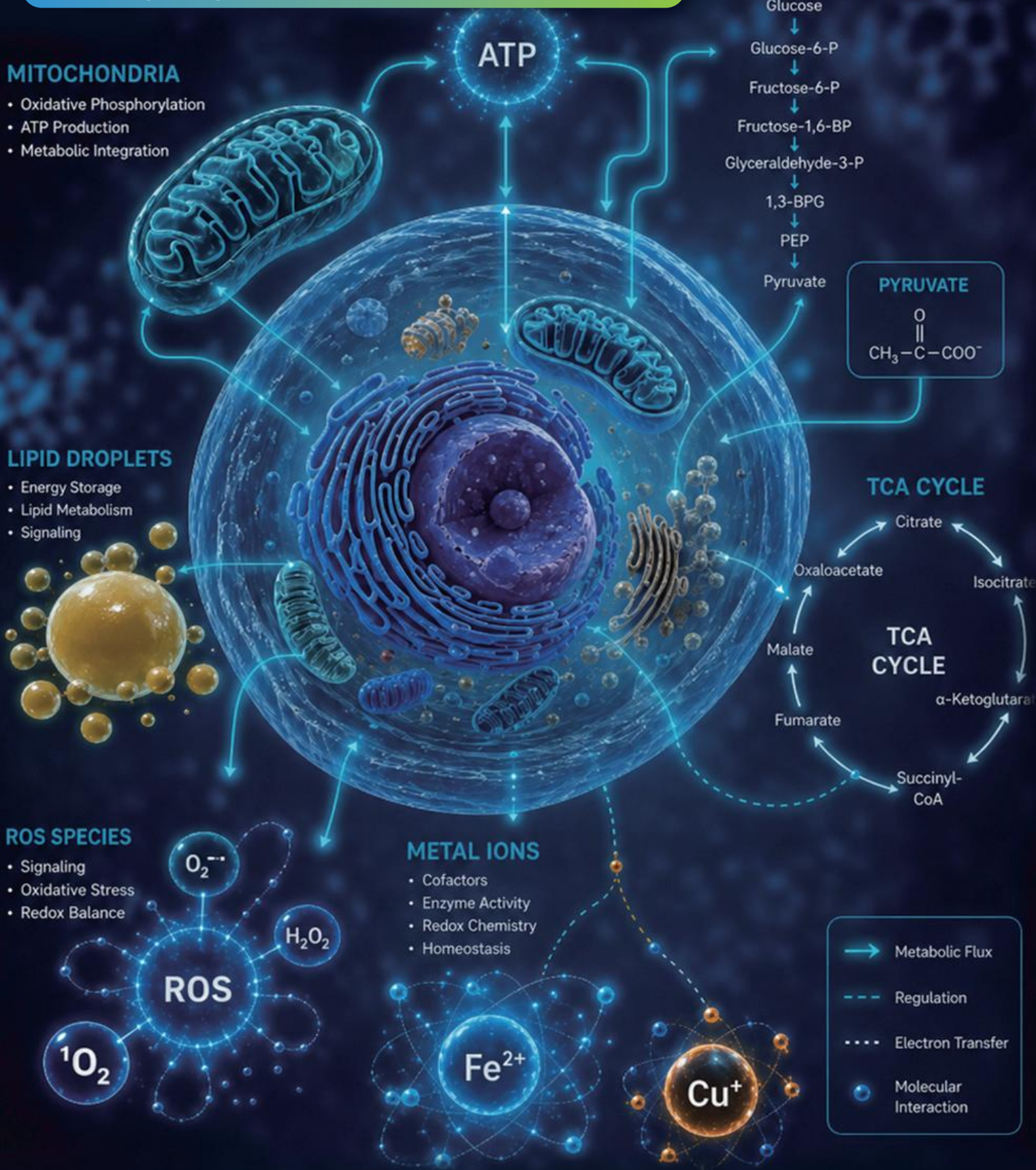
ROS SPECIES

- Signaling
- Oxidative Stress
- Redox Balance

METAL IONS

- Cofactors
- Enzyme Activity
- Redox Chemistry
- Homeostasis

ATP



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01 Why Metabolism Research Matters?

Metabolism constitutes a fundamental determinant of cellular physiology, governing energy transduction, biosynthetic flux, and redox equilibrium. Perturbations in metabolic regulation result in widespread functional reprogramming at the cellular and systemic levels.

In this context, metabolic analysis has become integral to modern biomedical research, enabling mechanistic dissection of disease-associated biochemical alterations and facilitating the identification of therapeutic targets. Quantitative evaluation of metabolites, enzymatic activities, and bioenergetic states provides a robust framework for characterizing cellular function under physiological and pathological conditions.

Elabscience® provides a comprehensive portfolio of rigorously validated metabolic assay kits, engineered to deliver high analytical sensitivity, reproducibility, and compatibility across diverse biological matrices and experimental platforms.

Key Research Areas Impacted

- ◎ Oncology-related metabolic reprogramming
- ◎ Neurodegenerative disease mechanisms
- ◎ Immune cell metabolic regulation
- ◎ Drug-induced metabolic perturbations and toxicity profiling

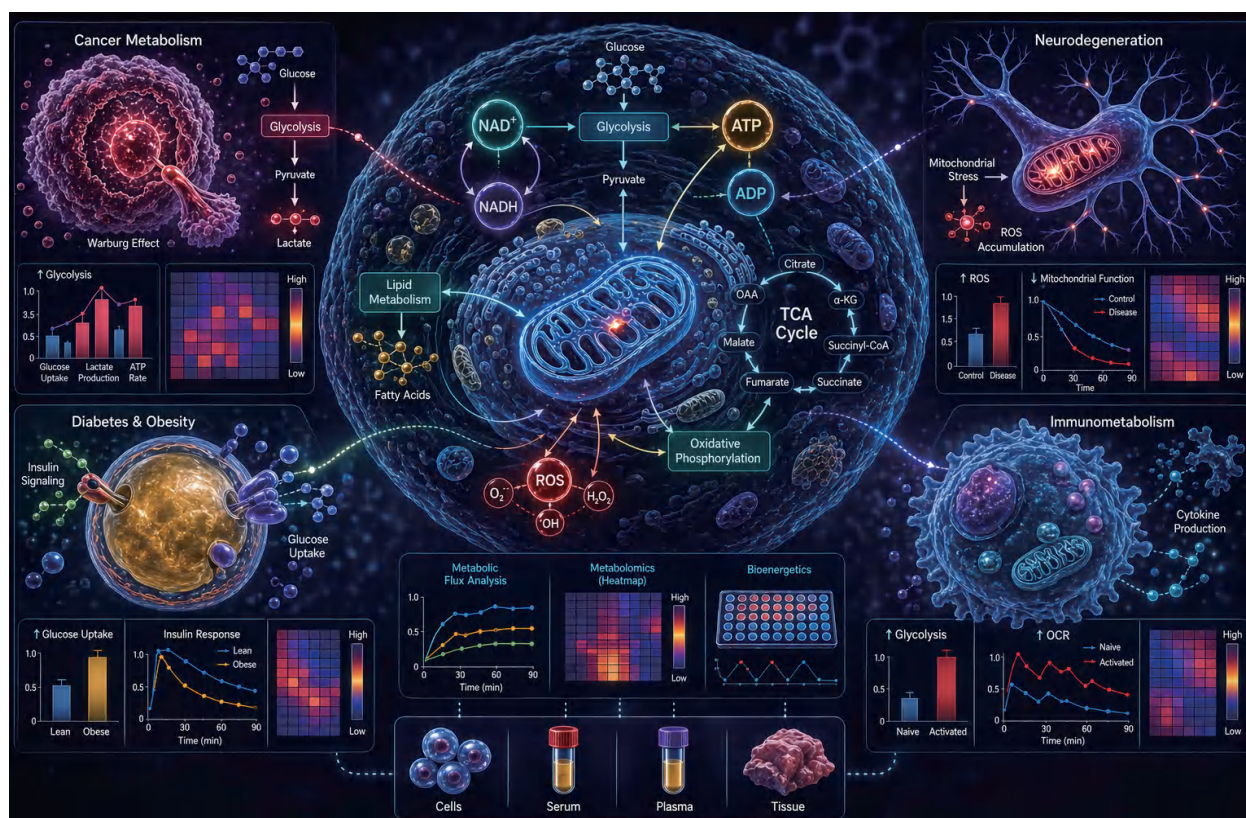


Fig 1. Metabolic dysregulation driving multi-system disease biology.

02 How to Study Metabolism

Metabolic analysis follows a structured workflow that links biological hypotheses to quantitative functional read-outs. This stepwise approach ensures consistency in experimental design and enables reliable interpretation of metabolic states across biological systems.

Workflow

1. Biological Question Definition
2. Pathway Identification (Energy, Redox, Lipid, Amino Acid, Ion Homeostasis)
3. Biomarker Selection (Metabolites, Enzymes, Ions)
4. Assay Selection and Quantification
5. Functional Validation and Data Integration

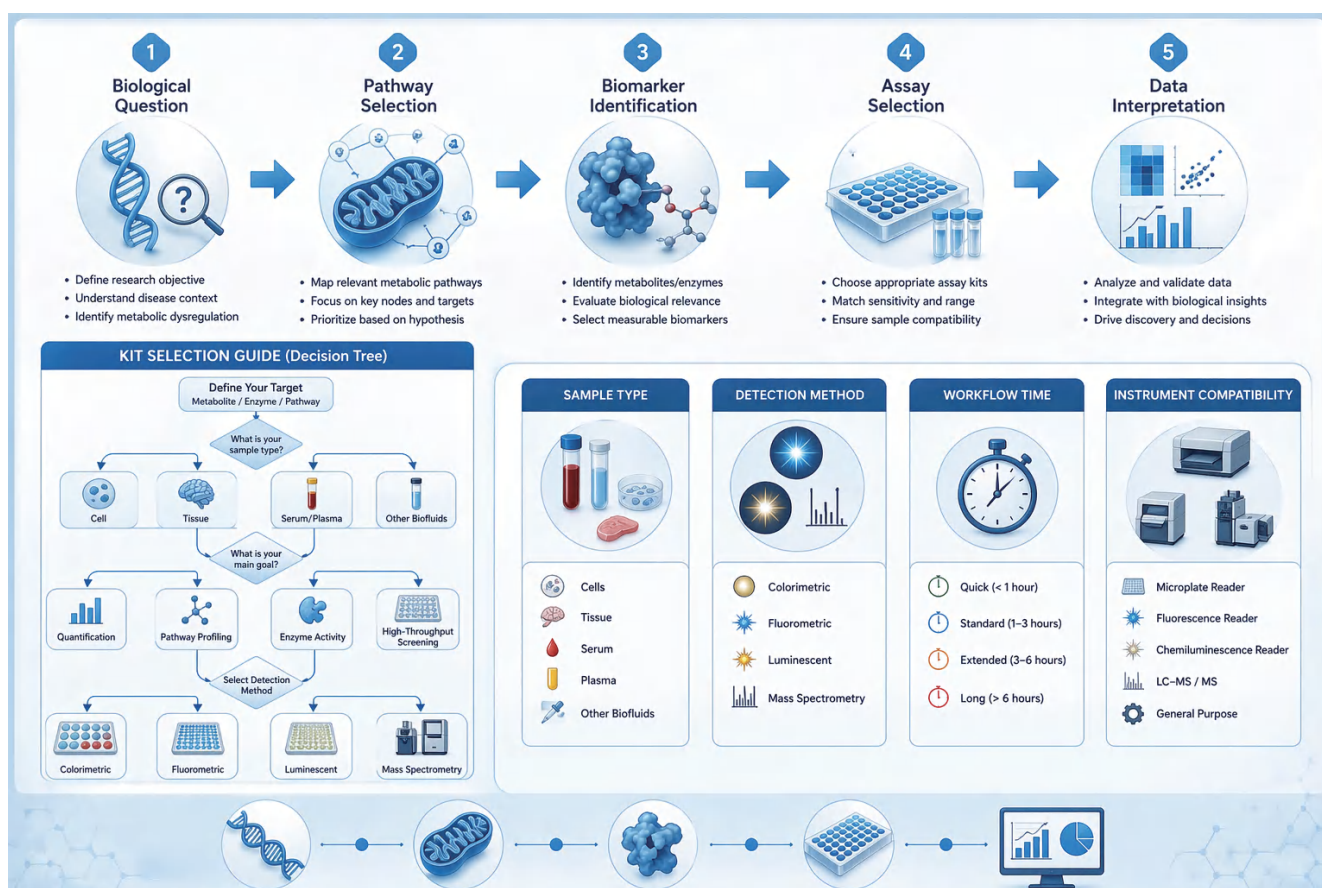


Fig 2. Research Journey Framework

03 Systems-Level Metabolic Network Architecture

Metabolism operates as an integrated, multi-layered network governing cellular energetics, redox homeostasis, and fate determination.

Central carbon flux: Glycolysis, lipid metabolism, and TCA cycle coordination

Mitochondrial control: ATP generation and bioenergetic coupling (core energy metabolism)

Redox dynamics: ROS balance and oxidative stress regulation

Cell fate pathways: Ferroptosis, cuproptosis, disulfidptosis

Biosynthetic integration: Amino acid and protein metabolism

Ion equilibrium: Inorganic ion homeostasis and signaling

Organ specificity: Liver, kidney, and plant metabolic specialization

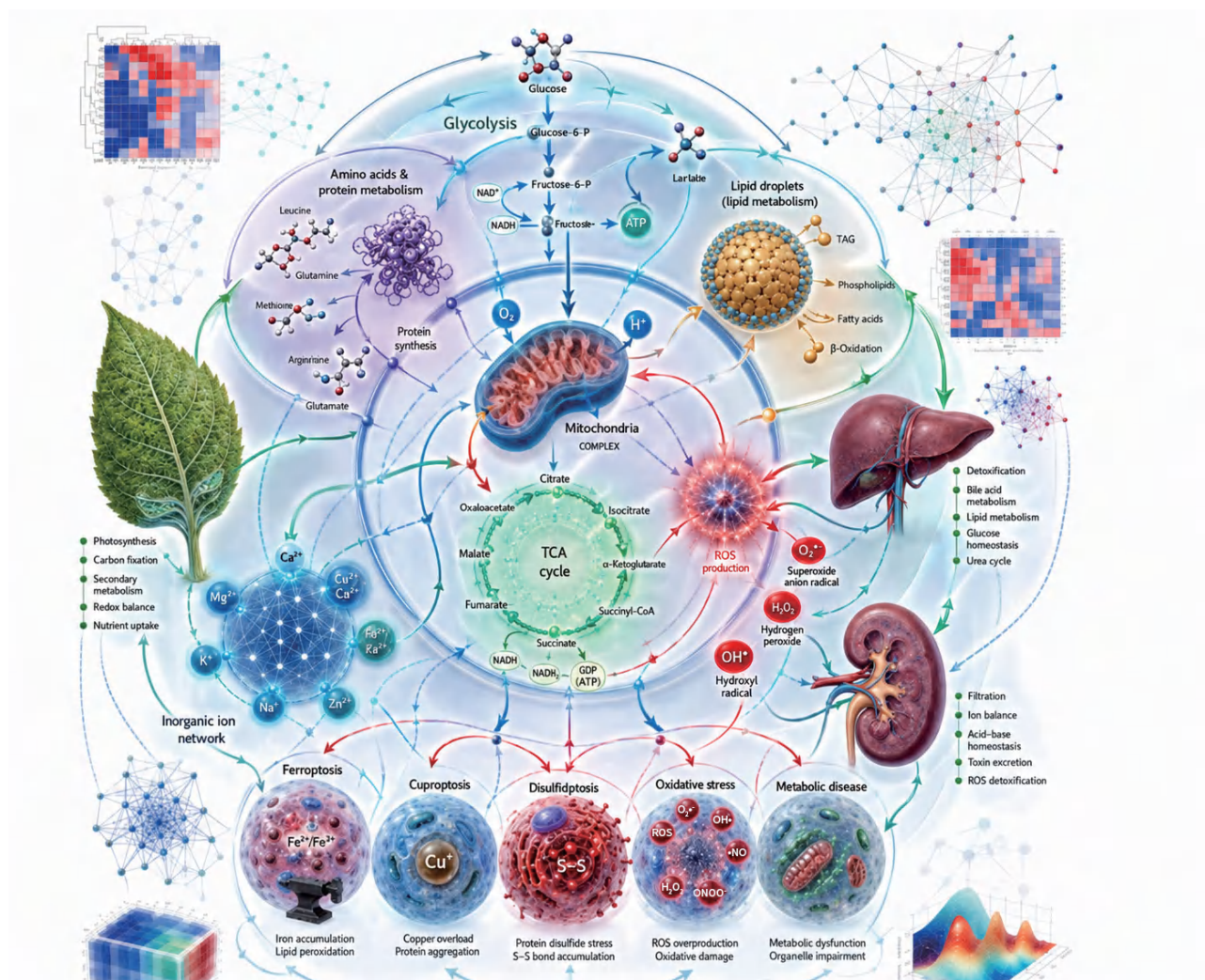
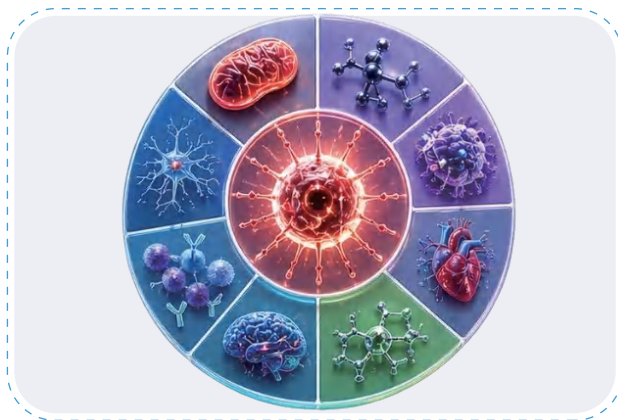


Fig 3. Network map of interconnected metabolic and cell death pathways

04 Why Choose Elabscience®

Metabolism Assay Kits



1. Broad Research Coverage

Coverage across oxidative stress, metabolic disorders, and 10+ high-impact research areas



2. High-Throughput Compatibility

Optimized fluorometric and colorimetric assays for rapid, reproducible high-throughput analysis



3. Versatile Sample Compatibility

Compatible with serum, plasma, cells, and tissue samples across multiple species



4. Stable and Reliable Performance

Validated stability with up to 12-month shelf life for consistent experimental performance



5. Strong Literature Validation

4000+ citations, including publications in high-impact journals such as Nature, Cell, and Cell Research

05 Application-Based Research Areas

5.1. Oxidative Stress Assays

■ 5.1.1 Application Scenario

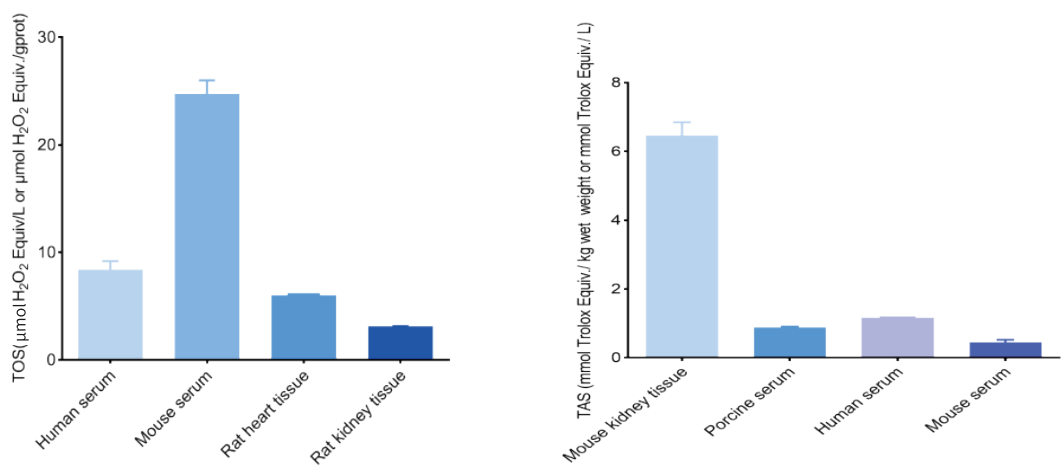


Fig 4. TOS and TAS levels across serum and tissue samples.

■ 5.1.2 Assay Panels

Reactive Oxygen Species & Oxidative Burden

Quantification of intracellular and extracellular reactive oxygen species and primary oxidative stress markers.

Lipid Peroxidation & Oxidative Damage

Assessment of oxidative membrane injury and lipid-derived reactive byproducts.

Antioxidant Defense System

Evaluation of enzymatic and non-enzymatic antioxidant capacity.

Redox Homeostasis & Total Capacity

Integrated measurement of systemic oxidative–anti-oxidant balance.

Oxidative Stress – Related Enzymatic Regulation

Analysis of redox-associated regulatory and metabolic enzymes.

■ 5.1.3 Portfolio

Redox imbalance underlies cellular injury and metabolic dysfunction. This system quantifies ROS production, antioxidant capacity, and enzymatic defense activity. Enables integrated assessment of oxidative burden across biological samples.

Product Name	Cat.No	Sample Type
Aldo-Keto Reductase (ARKs) Activity Assay Kit	E-BC-K810-M	Serum;Plasma;Tissue
ATPase Activity Assay Kit	E-BC-K831-M	Animal tissue;Cell
Ca ²⁺ -ATPase Activity Assay Kit	E-BC-K212-M	Animal tissue
Catalase (CAT) Activity Fluorometric Assay Kit	E-BC-F006	Serum;Plasma;Animal tissue
Catalase (CAT) Activity Assay Kit	E-BC-K031-M	Serum;Plasma;Cell;Cell culture supernatant;Tissue
Coenzyme Q10 (CoQ10) Colorimetric Assay Kit	E-BC-K885-M	Animal tissue
CuZn/Mn Superoxide Dismutase (CuZn-SOD/Mn-SOD) Activity Assay Kit (Hydroxylamine Method)	E-BC-K022-M	Serum;Plasma;Urine;Cell;Cell culture supernatant;Tissue
Cytochrome P450 Reductase (CPR) Activity Assay Kit	E-BC-K808-M	Tissue;Cell
Glutathione Peroxidase (GSH-Px) Activity Assay Kit	E-BC-K096-M	Serum;Plasma;Cell;Cell culture supernatant;Tissue
Glutathione Reductase (GR) Activity Assay Kit	E-BC-K099-M	Serum;Plasma;Tissue;Cell
H ⁺ K ⁺ -ATPase Activity Assay Kit	E-BC-K122-S	Animal tissue;Cell
Hydrogen Peroxide (H ₂ O ₂) Fluorometric Assay Kit	E-BC-F001	Serum;Plasma;Tissue;Cell
Hydrogen Peroxide (H ₂ O ₂) Colorimetric Assay Kit	E-BC-K102-M	Serum;Plasma;Urine;Tissue;Cell
Cell Hydrogen Sulfide (H ₂ S) Fluorometric Assay Kit	E-BC-F103	Cell
Hydroxyl Free Radical Scavenging Capacity Colorimetric Assay Kit (Fenton Method)	E-BC-K042-M	Serum;Plasma;Animal and plant tissue;Liquid
Hydroxyl Free Radical Scavenging Capacity Assay Kit	E-BC-K527-M	Serum;Plasma;Animal tissue
Enhanced Cell Malondialdehyde (MDA) Colorimetric Assay Kit	E-BC-K814-M	Cell
Malondialdehyde (MDA) Fluorometric Assay Kit	E-BC-F007	Serum;Plasma;Animal tissue;Cell
Malondialdehyde (MDA) Colorimetric Assay Kit (TBA Method)	E-BC-K025-M	Serum;Plasma;Animal tissue
Malondialdehyde (MDA) Colorimetric Assay Kit (Plant Samples)	E-BC-K027-M	Plant tissue
Mitochondrial Superoxide Fluorometric Assay Kit	E-BC-F008	Cell
Myeloperoxidase (MPO) Peroxidation Activity Fluorometric Assay Kit	E-BC-F013	Serum;Plasma;Animal tissue
Myeloperoxidase (MPO) Activity Assay Kit	E-BC-K074-M	Serum;Plasma;Animal tissue
Enhanced Cell Malondialdehyde (MDA) Colorimetric Assay Kit	E-BC-K814-M	Cell
Malondialdehyde (MDA) Colorimetric Assay Kit (TBA Method)	E-BC-K025-M	Serum;Plasma;Animal tissue
Malondialdehyde (MDA) Colorimetric Assay Kit (Plant Samples)	E-BC-K027-M	Plant tissue
Mitochondrial Superoxide Fluorometric Assay Kit	E-BC-F008	Cell
Myeloperoxidase (MPO) Peroxidation Activity Fluorometric Assay Kit	E-BC-F013	Serum;Plasma;Animal tissue
Myeloperoxidase (MPO) Activity Assay Kit	E-BC-K074-M	Serum;Plasma;Animal tissue
Enhanced Cell Malondialdehyde (MDA) Colorimetric Assay Kit	E-BC-K814-M	Cell
Myeloperoxidase (MPO) Activity Assay Kit	E-BC-K074-M	Serum;Plasma;Animal tissue
Na ⁺ K ⁺ -ATPase Activity Assay Kit	E-BC-K539-M	Serum;Plasma;Animal tissue
NAD ⁺ /NADH Colorimetric Assay Kit (WST-8)	E-BC-K804-M	Animal tissue;Cell
NADH Oxidase (NOX) Activity Assay Kit	E-BC-K806-M	Plant;Animal tissue;Cell sample

Product Name	Cat.No	Sample Type
NADP ⁺ /NADPH Colorimetric Assay Kit (WST-8)	E-BC-K803-M	Animal tissue;Cell
NADPH Oxidase (NAO) Activity Colorimetric Assay Kit	E-BC-K815-M	Animal and plant tissue;Cell
Nitric Oxide (NO) Colorimetric Assay Kit	E-BC-K035-M	Serum;Plasma;Tissue;Saliva
Nitric Oxide (NO) Colorimetric Assay Kit (Nitrate Reductase Method)	E-BC-K135-M	Serum;Plasma;Urine;Tissue;Cell;Supernatant of Cell sample
Peroxidase (POD) Activity Assay Kit (Plant samples)	E-BC-K227-M	Plant tissue
Peroxidase (POD) Activity Assay Kit (Plant Samples)	E-BC-K227-S	Plant tissue
Protein Carbonyl Colorimetric Assay Kit (Tissue And Serum Samples)	E-BC-K117-M	Serum;Plasma;Hydrothorax;Cell culture supernatant;Tissue
Reactive Oxygen Species (ROS) Fluorometric Assay Kit (Red)	E-BC-F005	Cell
Reactive Oxygen Species (ROS) Fluorometric Assay Kit (Green)	E-BC-K138-F	Fresh tissue;Cultured cell
Reduced Glutathione (GSH) Colorimetric Assay Kit	E-BC-K030-M	Serum;Plasma;Cell culture supernatant;Tissue;Cell
Reduced Glutathione (GSH) Colorimetric Assay Kit	E-BC-K030-S	Serum;Plasma;Tissue;Cell
Inhibition And Production Of Superoxide Anionic Colorimetric Assay Kit (WST-1 Method)	E-BC-K001-M	Serum;Plasma;Urine;Cell;Cell culture supernatant;leucocyte
Thiobarbituric Acid Reactants (TBARS) Fluorometric Assay Kit	E-BC-K298-F	Serum;Plasma;Animal tissue;Cell
Thiobarbituric Acid Reactants (TBARS) Colorimetric Assay Kit	E-BC-K298-M	Serum;Plasma;Animal tissue
Thioredoxin Reductase (TrxR) Activity Assay Kit	E-BC-K548-M	Animal tissue;Cell
Total Antioxidant Capacity (T-AOC) Colorimetric Assay Kit	E-BC-K136-M	Serum;Plasma;whole blood;Tissue;Cell;Cell culture supernatant
Total Antioxidant Capacity (T-AOC) Colorimetric Assay Kit	E-BC-K136-S	Serum;Plasma;Saliva;Urine;Tissue;Cell
Total Antioxidant Capacity (T-AOC) Colorimetric Assay Kit (ABTS, Enzyme Method)	E-BC-K219-M	Serum;Plasma;Urine;Saliva;Tissue;Cell
Total Antioxidant Capacity (T-AOC) Colorimetric Assay Kit (FRAP Method)	E-BC-K225-M	Serum;Plasma;Saliva;Urine;Tissue;Cell;Cell culture supernatant
Total Antioxidant Capacity (T-AOC) Colorimetric Assay Kit (ABTS, Chemical Method)	E-BC-K271-M	Serum;Plasma;Urine;Saliva;Tissue;Cell
DPPH Free Radical Scavenging Capacity Colorimetric Assay Kit	E-BC-K807-M	Serum;Plasma;Tissue;Cell
Total Antioxidant Status (TAS) Colorimetric Assay Kit	E-BC-K801-M	Serum;Plasma;Urine;Cellular supernatant;Animal tissue;Plant tissue
Total Glutathione (T-GSH) And Reduced Glutathione (GSH) Fluorometric Assay Kit	E-BC-F045	Serum;Plasma;Animal tissue;Cell
Total Glutathione (T-GSH)/Oxidized Glutathione (GSSG) Colorimetric Assay Kit	E-BC-K097-M	Serum;Plasma;Animal tissue;Red blood Cell;cultured Cell
Total Oxidant Status (TOS) Colorimetric Assay Kit	E-BC-K802-M	Cell;Tissue;Serum;Other liquid sample
Total Sulfhydryl Group/Total Thiol (-SH) Colorimetric Assay Kit	E-BC-K265-M	Serum;Plasma;Animal tissue
Total Superoxide Dismutase (T-SOD) Activity Assay Kit (Hydroxylamine Method)	E-BC-K019-M	Serum;Plasma;Urine;Cell;Cell culture supernatant;Tissue
Total Superoxide Dismutase (T-SOD) Activity Assay Kit (Hydroxylamine Method)	E-BC-K019-S	Serum;Plasma;Urine;Cell;Cell culture supernatant;Tissue
Total Superoxide Dismutase (T-SOD) Activity Assay Kit (WST-1 Method)	E-BC-K020-M	Serum;Plasma;Hydrothorax;ascites;Urine;Cell;Tissue
Xanthine Oxidase (XOD) Activity Fluorometric Assay Kit	E-BC-F019	Serum;Plasma;Animal tissue
Xanthine Oxidase (XOD) Activity Assay Kit	E-BC-K805-M	Serum;Plasma;Animal tissue sample
Xanthine/Hypoxanthine Fluorometric Assay Kit	E-BC-F024	Serum;Plasma;Animal tissue;Cell

■ 5.1.4 Cross-links

Mitochondrial Dysfunction

Ferroptosis Pathways

Inflammatory Signaling

5.2 Mitochondria Function & Energy Metabolism

■ 5.2.1 Application Scenario

Evaluation of cellular energy production and mitochondrial respiratory efficiency under basal and stimulated metabolic states.

OCR and ATP assays (E-BC-F070 / E-BC-F201) measure respiratory activity and intracellular energy status in hematopoietic and T cell models under variable metabolic demand.

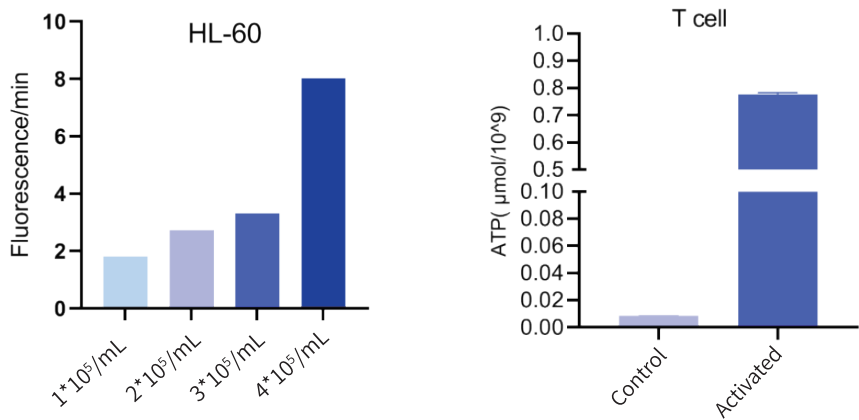


Fig 5. OCR and ATP levels in cellular metabolic models.

■ 5.2.2 Assay Panels

ATP Production & Cellular Energy Status

Quantification of cellular energy currency and adenylate energy balance reflecting metabolic activity.

Mitochondrial Respiratory Chain Function

Assessment of electron transport chain complex activities driving oxidative phosphorylation.

Mitochondrial Function & Integrity

Evaluation of mitochondrial respiratory efficiency, membrane stability, and bioenergetic stress response.

Metabolic Flux & Energy Pathway Integration

Analysis of dynamic energy utilization across glycolysis, fatty acid oxidation, and amino acid metabolism.

■ 5.2.3 Portfolio

Mitochondria regulate ATP production via oxidative phosphorylation and metabolic flux control. These assays evaluate respiratory activity, energy status, and bioenergetic stress. Support functional profiling of mitochondrial performance under varied conditions.

Product Name	Cat.No	Sample Type
Adenosine Colorimetric Assay Kit	E-BC-K833-M	Serum;Plasma;Animal and plant tissue;Cell
ATP Colorimetric Assay Kit	E-BC-K157-M	Animal tissue
ATP Colorimetric Assay Kit	E-BC-K157-S	Tissue
ATP Colorimetric Assay Kit (Enzyme Method)	E-BC-K774-M	Animal tissue
Enhanced ATP Chemiluminescence Assay Kit	E-BC-F201	Animal tissue;cell
ATP Chemiluminescence Assay Kit (Double Reagent)	E-BC-F300	Cell
ATP/ADP Ratio Chemiluminescence Assay kit	E-BC-F004	Cell
Branched Chain Amino Acids (BCAA) Colorimetric Assay Kit	E-BC-K847-M	Serum;Plasma;Animal and plant tissue;Cell
Cell Viability Chemiluminescence Assay Kit	E-BC-F200	Cell
Extracellular Acidification Rate (ECAR) Fluorometric Assay Kit	E-BC-F069	Cell
Fatty Acid Oxidation (FAO) Colorimetric Assay Kit	E-BC-K784-M	Animal tissue; cell
Glycolysis Stress Fluorometric Assay Kit	E-BC-F084	Cell
Mitochondrial Complex III (Coenzyme Q-Cytochrome C Reductase) Activity Assay Kit	E-BC-K151-M	Animal tissue
Cell Mitochondrial Complex III (Coenzyme Q-Cytochrome C Reductase) Activity Assay Kit	E-BC-K836-M	Cell
Mitochondrial Complex V (F0F1-ATPase/ATP Synthase) Activity Assay Kit	E-BC-K153-M	Animal tissue
Cell Mitochondrial Complex V (F0F1-ATPase/ATP Synthase) Activity Assay Kit	E-BC-K838-M	Cell
Mitochondrial Complex I (NADH-CoQ Reductase) Activity Assay Kit	E-BC-K149-M	Animal tissue
Cell Mitochondrial Complex I (NADH-CoQ Reductase) Activity Assay Kit	E-BC-K834-M	Cell
Mitochondrial Complex II Activity Assay Kit	E-BC-K150-M	Animal tissue
Cell Mitochondrial Complex II Activity Assay Kit	E-BC-K835-M	Cell
Mitochondrial Complex IV (Cytochrome C Oxidase) Activity Assay Kit	E-BC-K152-M	Animal tissue
Cell Mitochondrial Complex IV (Cytochrome C Oxidase) Activity Assay Kit	E-BC-K837-M	Cell
Mitochondrial Permeability Transition Pore (mPTP) Fluorometric Assay Kit	E-BC-F064	Cell
Mitochondrial Stress Fluorometric Assay Kit	E-BC-F078	Cell
Enhanced Oxygen Consumption Rate (OCR)Fluorometric Assay Kit	E-BC-F070	Cell
Phosphocreatine (PCr) Fluorometric Assay Kit	E-BC-F154	Animal tissue;Cell

■ 5.2.4 Cross-links

Oxidative Stress Response

TCA Cycle Activity

Cell Viability Regulation

5.3. TCA Cycle Assays

■ 5.3.1 Application Scenario

Assessment of central carbon metabolism activity through quantification of key TCA intermediates under distinct immune activation states.

Succinate assay (E-BC-K902-M) reveals metabolic rewiring in macrophages, reflecting altered TCA flux during inflammatory polarization.

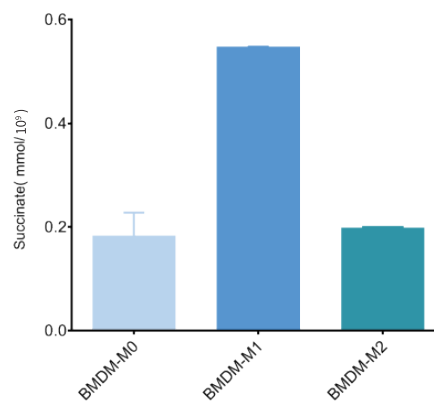


Fig 6. Succinate levels across macrophage polarization states.

■ 5.3.2 Assay Panels

Core TCA Metabolite Profiling

Quantification of central tricarboxylic acid cycle intermediates reflecting mitochondrial metabolic flux.

TCA Cycle Enzymatic Activity

Assessment of key catalytic enzymes governing cycle progression and metabolic throughput.

Energy Coupling Enzyme Systems

Evaluation of enzymatic interfaces linking glycolysis, amino acid metabolism, and the TCA cycle.

Metabolic Entry and Exit Nodes

Measurement of key substrates and cofactors regulating carbon input and energy output of the TCA cycle.

■ 5.3.3 Portfolio

The TCA cycle governs central carbon metabolism and energy generation. These assays quantify intermediates and enzyme activities reflecting metabolic flux. Enable evaluation of pathway remodeling under physiological and pathological states.

Product Name	Cat.No	Sample Type
Acetyl Coenzyme A (Acetyl-CoA) Fluorometric Assay Kit	E-BC-F046	Serum;Plasma;Animal tissue;Cell
α -Ketoglutarate (α -KG) Fluorometric Assay Kit	E-BC-F047	Serum;Plasma;Urine;Animal tissue;Cell sample
Pyruvate Fluorometric Assay Kit	E-BC-F058	Serum;Plasma;Urine;Animal tissue;Cell
α -Ketoglutarate Dehydrogenase (α -KGDH) Activity Assay Kit	E-BC-K083-M	Serum;Plasma;Animal tissue;Plant tissue
Pyruvic Acid Colorimetric Assay Kit	E-BC-K130-M	Serum;Plasma;Tissue
Pyruvic Acid Colorimetric Assay Kit	E-BC-K130-S	Serum;Plasma;Tissue
Citrate Synthase (CS) Activity Assay Kit	E-BC-K178-M	Animal tissue;Plant tissue;Cell
Citric Acid (CA) Colorimetric Assay Kit	E-BC-K351-M	Serum;Plasma;Animal tissue;Mitochondria
Citric Acid (CA) Colorimetric Assay Kit	E-BC-K351-S	Tissue;Mitochondria;Other liquid sample
NADP-Isocitrate Dehydrogenase (NADP-IDH) Activity Assay Kit	E-BC-K554-M	Tissue;Cell
NADP-Malic Enzyme (NADP-ME) Activity Colorimetric Assay Kit	E-BC-K555-M	Animal tissue;Plant tissue;Cell
NAD-Malic Enzyme (NAD-ME) Activity	E-BC-F084	Cell
Colorimetric Assay Kit	E-BC-K556-M	Animal tissue;Plant tissue;Cell;Serum;Plasma
NAD-Malate Dehydrogenase (NAD-MDH) Activity Assay Kit	E-BC-K561-M	Serum;Plasma;Animal tissue;Cell
NADP-Malate Dehydrogenase (NADP-MDH) Activity Assay Kit	E-BC-K562-M	Serum;Plasma;Animal tissue;Cell
Succinate Dehydrogenase (SDH) Activity Assay Kit	E-BC-K649-M	Animal tissue;Cell
Pyruvate Dehydrogenase (PDH) Activity Assay Kit	E-BC-K650-M	Serum;Plasma;Urine;Animal tissue;Cell
NAD-Isocitrate Dehydrogenase (NAD-IDH) Activity Assay Kit	E-BC-K651-M	Animal tissue
Aconitase (ACO) Activity Assay Kit	E-BC-K656-M	Animal tissue
Glutamine Synthetase (GS) Activity Colorimetric Assay Kit	E-BC-K664-M	Serum;Plasma;Animal tissue
Oxaloacetate Colorimetric Assay Kit	E-BC-K901-M	Animal tissue
Succinic Acid Colorimetric Assay Kit	E-BC-K902-M	Serum;Plasma;Animal tissue;Cell
Malic Acid Colorimetric Assay Kit	E-BC-K905-M	Serum;Plasma;Tissue;Cell
Succinyl-CoA Synthetase (SCS) Activity Assay Kit	E-BC-K906-M	Tissue;Cell
Coenzyme A (CoA) Colorimetric Assay Kit	E-BC-K907-M	Serum;Plasma;Animal tissue;Cell
Fumarase (FUM) Activity Colorimetric Assay Kit	E-BC-K908-M	Serum;Plasma;Animal tissue;Cell

■ 5.3.4 Cross-links

Mitochondrial Energy Metabolism

Glycolytic Reprogramming

Amino Acid Catabolism

5.4 Ferroptosis & Cuproptosis

■ 5.4.1 Application Scenario

Detection of metal-ion-driven cell death mechanisms through evaluation of iron and copper accumulation and associated redox imbalance.

Fe^{2+} and Cu^{+} assays (E-BC-F108 / E-BC-F102) quantify intracellular labile metal pools across cell types, supporting mechanistic characterization of ferroptotic and cuproptotic stress.

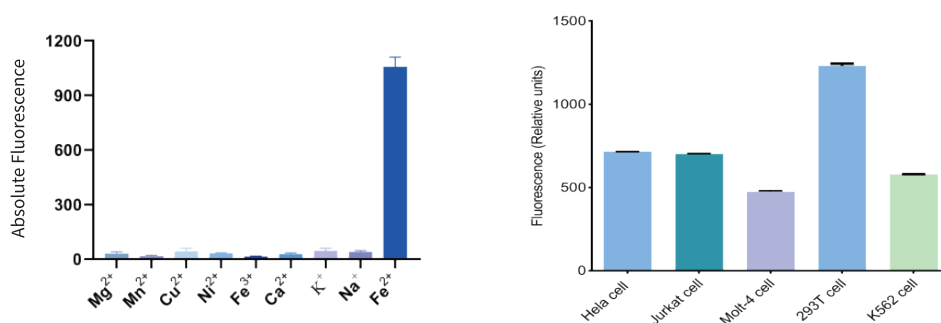


Fig 7. Intracellular Fe^{2+} and Cu^{+} distribution across cell types.

■ 5.4.2 Assay Panels

Iron Homeostasis & Labile Iron Pool

Assessment of intracellular iron status and iron availability driving ferroptotic sensitivity.

Lipid Peroxidation & Membrane Oxidative Damage

Evaluation of iron-dependent lipid oxidative injury and membrane destabilization.

Antioxidant Defense in Ferroptotic Regulation

Quantification of glutathione-dependent and ferroptosis-suppressing antioxidant systems.

Copper-Dependent Cell Death & Metal Stress

Assessment of copper accumulation and proteotoxic stress associated with cuproptosis.

Ferroptosis Regulatory Pathways

Analysis of metabolic and enzymatic regulators governing ferroptosis susceptibility.

■ 5.4.3 Portfolio

Ferroptosis and cuproptosis represent metal-dependent regulated cell death mechanisms. These assays detect iron/copper accumulation and lipid peroxidation-driven stress. Support mechanistic analysis of non-apoptotic cell death pathways.

Product Name	Cat.No	Sample Type
Ferroptosis Suppressor Protein-1 (FSP-1) Activity Fluorometric Assay Kit	E-BC-F022	Animal and plant tissue;Cell
Dihydroorotate Dehydrogenase (DHODH) Activity	E-BC-K157-M	Animal tissue
Fluorometric Assay Kit	E-BC-F140	Animal tissue;Cell
Squalene Synthase (SQS) Activity Colorimetric Assay Kit	E-BC-K794-M	Serum;Plasma;Animal tissue;Cell
Glutathione Peroxidase 4 (GPX4) Activity Assay Kit	E-BC-K883-M	Animal tissue;Cell
Lipid Peroxide (LPO) Fluorometric Assay Kit	E-BC-F003	Cell
Cystine Uptake Fluorometric Assay Kit	E-BC-F066	Cell
Lipoxygenase (LOX) Activity Fluorometric Assay Kit	E-BC-F077	Serum;Plasma;Animal tissue;Cell
Cell Ferrous Iron (Fe ²⁺) Fluorometric Assay Kit	E-BC-F101	Cell
Cell Ferrous (Fe ²⁺) Fluorometric Assay Kit	E-BC-F108	Cell
Lipid Peroxide (LPO) Colorimetric Assay Kit	E-BC-K176-M	Serum;Plasma;Urine;Tissue
Total Iron Colorimetric Assay Kit	E-BC-K772-M	Serum;Tissue
Ferrous Iron Colorimetric Assay Kit	E-BC-K773-M	Serum;Tissue
Cell Glutathione Peroxidase (GPX) Activity Assay Kit	E-BC-K809-M	Cell
Cell Total Iron Colorimetric Assay Kit	E-BC-K880-M	Cell
Cell Ferrous Iron Colorimetric Assay Kit	E-BC-K881-M	Cell
Cellular Cuprous Fluorometric Assay Kit	E-BC-F102	Cell
Lactate Dehydrogenase (LDH) Cytotoxicity Colorimetric Assay Kit	E-BC-K771-M	Cell
Cell Copper (Cu ²⁺) Colorimetric Assay Kit (Complexing Method)	E-BC-K775-M	Cell

■ 5.4.4 Cross-links

Oxidative Stress Imbalance

Lipid Metabolism Disruption

Mitochondrial Injury

5.5 Glycolysis & Lipid Metabolism

■ 5.5.1 Application Scenario

Investigation of glucose utilization and metabolic flux alterations under glycolytic inhibition and metabolic reprogramming conditions.

Glucose uptake assay (E-BC-F041) evaluates cellular glucose assimilation dynamics following glycolytic blockade.

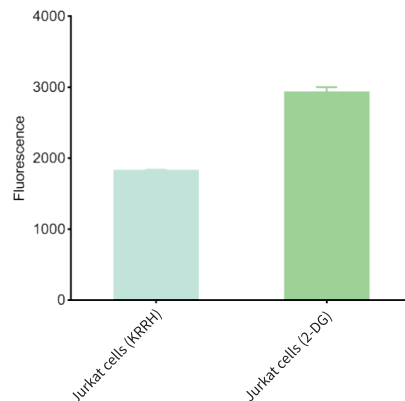


Fig 8. Glucose uptake under glycolytic inhibition

■ 5.5.2 Assay Panels

Glycolytic Metabolite Flux

Quantification of glucose utilization and downstream glycolytic intermediates reflecting energy production.

Glycolytic Enzymatic Regulation

Assessment of rate-limiting and pathway-controlling glycolytic enzyme activities.

Lipid Metabolism Homeostasis

Evaluation of lipid synthesis, mobilization, and oxidation status in cellular energy balance.

Lipid Signaling & Metabolic Regulation

Analysis of lipid-derived signaling molecules and membrane-associated metabolic regulators.

Energy Storage & Metabolic Reprogramming

Assessment of glycogen storage and global metabolic shifts under physiological or disease conditions.

■ 5.5.3 Portfolio

Energy metabolism is governed by glycolytic flux and lipid turnover pathways. These assays measure glucose utilization, lipid processing, and enzyme activity. Enable characterization of metabolic reprogramming in disease models.

Product Name	Cat.No	Sample Type
Triglyceride (TG) Fluorometric Assay Kit	E-BC-F033	Serum;Plasma;Tissue;Cell sample
Carnitine Palmitoyl Transferase-I (CPT-I) Activity Colorimetric Assay Kit	E-BC-K1107-M	Animal tissue;Cell
Lactate Dehydrogenase (LDH) Activity Colorimetric Assay Kit (Lactate Substrate Method)	E-BC-K1302-M	Animal tissue;Cell;Serum;Plasma
3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase (HMGR) Activity Colorimetric Assay Kit	E-BC-K795-M	Animal tissue
Adenosine Diphosphate (ADP) Fluorometric Assay Kit	E-BC-F009	Serum;Plasma;Animal tissue;Cell
Total Cholesterol and Cholesteryl Ester Fluorometric Assay Kit	E-BC-F032	Serum;Plasma;Animal tissue;Cell
High-Density Lipoprotein Cholesterol (HDL-C) Fluorometric Assay Kit	E-BC-F035	Serum;Plasma;Animal tissue;Cell
Glucose (GLU) Fluorometric Assay Kit	E-BC-F037	Serum;Plasma;Urine;Saliva;Milk;Cell
Free Fatty Acids (NEFA/FFA) Fluorometric Assay Kit	E-BC-F039	Serum;Plasma;Animal tissue;Cell
Glucose Uptake Fluorometric Assay Kit	E-BC-F041	Cell
Lactulose Fluorometric Assay Kit	E-BC-F049	Dairy product;Feces
Choline/Acetylcholine Fluorometric Assay Kit	E-BC-F055	Serum;Plasma;Animal tissue
Adipogenesis Fluorometric Assay Kit	E-BC-F065	Tissue;Cell
Fatty Acid Uptake Fluorometric Assay Kit	E-BC-F067	Cell
Intracellular Acidification Rate Fluorometric Assay Kit	E-BC-F073	Cell
Sphingomyelin (SM) Fluorometric Assay Kit	E-BC-F079	Serum;Plasma;Animal tissue;Cell
Fructose Fluorometric Assay Kit	E-BC-F080	Serum;Plasma;Tissue
Glycerol-3-phosphate (G3P) Fluorometric Assay Kit	E-BC-F081	Tissue;Cell
Fatty Acid Amide Hydrolase (FAAH) Activity Fluorometric Assay Kit	E-BC-F082	Animal tissue;Cell
Fructose-6-Phosphate (F-6-P) Fluorometric Assay Kit	E-BC-F087	Animal and plant tissue;Cell
Cholesterol Uptake Fluorometric Assay Kit	E-BC-F089	Cell
Dihydroxyacetone Phosphate (DHAP) Fluorometric Assay Kit	E-BC-F151	Serum;Plasma;Animal tissue
6-Phosphogluconic Acid (6-PGA) Fluorometric Assay Kit	E-BC-F152	Animal tissue;Cell
Glycogen Fluorometric Assay Kit (Glycosidase Method)	E-BC-F171	Animal tissue;Cell
D-Lactic Acid/Lactate(LA)Colorimetric Assay Kit	E-BC-K002-M	Serum;Plasma;Animal tissue;Saliva sample
Free Cholesterol (FC) Colorimetric Assay Kit	E-BC-K004-M	Serum;Plasma;Tissue
Glucose-6-phosphate (G6P) Colorimetric Assay Kit	E-BC-K011-M	Serum;Plasma;Animal tissue
Non-esterified Free Fatty Acids (NEFA/FFA) Colorimetric Assay Kit	E-BC-K013-M	Animal tissue

Product Name	Cat.No	Sample Type
Non-esterified Free Fatty Acids (NEFA/FFA) Colorimetric Assay Kit	E-BC-K013-S	Animal tissue
Non-esterified Free Fatty Acids (NEFA) Colorimetric Assay Kit	E-BC-K014	Serum;Plasma;Tissue;Cell;Cell supernatant
D-Xylose Colorimetric Assay Kit	E-BC-K018-S	Serum;Plasma;Urine
Maltase Activity Assay Kit	E-BC-K041-M	Animal tissue
L-Lactic Acid (LA) Colorimetric Assay Kit (Whole Blood Samples)	E-BC-K043-S	Whole blood
L-Lactic Acid (LA) Colorimetric Assay Kit	E-BC-K044-M	Serum;Plasma;Cell culture supernatant;Tissue;Cell
L-Lactic Acid (LA) Colorimetric Assay Kit	E-BC-K044-S	Serum;Plasma;Cell culture supernatant;Tissue;Cell
Lactate Dehydrogenase (LDH) Activity Assay Kit	E-BC-K046-M	Serum;Plasma;Hydrothorax;Tissue;Cell
Lactate Dehydrogenase (LDH) Activity Assay Kit	E-BC-K046-S	Serum;Plasma;Tissue;Cell
Glucose-6-Phosphate Dehydrogenase (G-6-PD) Activity Assay Kit	E-BC-K056-M	Serum;Plasma;Animal tissue
Glycogen Colorimetric Assay Kit (Liver/Muscle Samples)	E-BC-K073-S	Animal liver;Muscle
Total Cholesterol (TC) Colorimetric Assay Kit (Single Reagent, COD-PAP Method)	E-BC-K109-M	Serum;Plasma;Tissue
Total Cholesterol (TC) Colorimetric Assay Kit (Single Reagent, COD-PAP Method)	E-BC-K109-S	Serum;Plasma;Hydrothorax;Animal tissue
Tissue Total Cholesterol (TC) Colorimetric Assay Kit	E-BC-K1103-M	Animal tissue
Tissue Free Cholesterol (FC) Colorimetric Assay Kit	E-BC-K1104-M	Animal tissue
Biotin Colorimetric Assay Kit	E-BC-K1105-M	Antibodies;Proteins
6-Phosphogluconate Dehydrogenase (6-PGDH) Activity Colorimetric Assay Kit	E-BC-K1150-M	Serum;Plasma;Animal and plant tissue;Cell
Fructokinase (FRK) Activity Colorimetric Assay Kit	E-BC-K1157-M	Animal tissue;Plant tissue;Cell
Lactase Activity Assay Kit	E-BC-K131-M	animal tissue
Sucrose Colorimetric Assay Kit	E-BC-K161-S	Plant tissue
Low-Density Lipoprotein Cholesterol (LDL-C) Colorimetric Assay Kit (Double Reagents)	E-BC-K205-M	Serum;Plasma;Cell
Low-Density Lipoprotein Cholesterol (LDL-C) Colorimetric Assay Kit (Double Reagents)	E-BC-K205-S	Serum;Plasma;animal tissue
High-Density Lipoprotein Cholesterol (HDL-C) Colorimetric Assay Kit (Double Reagents)	E-BC-K221-M	Serum;Plasma
Glucose (Glu) Colorimetric Assay Kit (GOD-POD Method)	E-BC-K234-M	Serum;Plasma;whole blood;Tissue
Glucose (Glu) Colorimetric Assay Kit (GOD-POD Method)	E-BC-K234-S	Serum;Plasma;Tissue
Triglyceride (TG) Colorimetric Assay Kit (Single Reagent, GPO-PAP Method)	E-BC-K261-M	Serum;Plasma;Tissue
Triglyceride (TG) Colorimetric Assay Kit (Single Reagent, GPO-PAP Method)	E-BC-K261-S	Serum;Plasma;Tissue
Glycerol Colorimetric Assay Kit	E-BC-K340-M	Serum;Plasma;Animal tissue;Cell
Pyruvate Decarboxylase (PDC) Activity Assay Kit	E-BC-K500-M	Serum;Plasma;Tissue;Cell sample
Acetyl-CoA Carboxylase (ACC) Activity Assay Kit	E-BC-K508-M	Animal tissue;Plant tissue
Glucose Oxidase (GOD) Activity Assay Kit	E-BC-K520-M	
Carboxylesterase (CES) Activity Colorimetric Assay Kit	E-BC-K579-M	Serum;Plasma;Animal tissue;Cell

Product Name	Cat.No	Sample Type
Phosphoenolpyruvate Carboxykinase (PEPCK) Activity Colorimetric Assay Kit	E-BC-K605-M	Animal tissue;Plant tissue;Cell;Serum;Plasma
Pyruvate Carboxylase (PC) Activity Assay Kit	E-BC-K608-M	Serum;Plasma;Animal tissue;Cell
Hexokinase (HK) Activity Assay Kit	E-BC-K610-M	Animal tissue;Cell
Pyruvate Kinase (PK) Activity Assay Kit	E-BC-K611-M	Serum;Plasma;Tissue;Cell
Phosphofructokinase (PFK) Activity Assay Kit	E-BC-K612-M	Serum;Plasma;Tissue;Cell sample
α -Galactosidase (α -Gal) Activity Assay Kit	E-BC-K630-M	Animal tissue;Plant tissue
Lactate Dehydrogenase (LDH) Activity Assay Kit (WST-8 Method)	E-BC-K766-M	Serum;Plasma;Animal tissue;Cell culture supernatant
Glucokinase (GCK) Activity Colorimetric Assay Kit	E-BC-K768-M	Animal tissue;Cell
Phosphoglucose Isomerase (PGI) Activity Colorimetric Assay Kit	E-BC-K770-M	Serum;Plasma;Animal tissue;Cell
Phosphoglycerate Kinase (PGK) Activity Colorimetric Assay Kit	E-BC-K778-M	Animal tissue;Cell;Serum;Plasma
Acyl-CoA Synthetase (ACS) Activity Colorimetric Assay Kit	E-BC-K779-M	Serum;Plasma;Animal and plant tissue;Cell
Phospholipase C (PLC) Activity Colorimetric Assay Kit	E-BC-K781-M	Serum;Plasma;Animal and plant tissue;Cell
Total Phosphodiesterase (PDEs) Activity Colorimetric Assay Kit	E-BC-K782-M	Serum;Plasma;Animal tissue;Cell
Phospholipase D (PLD) Activity Colorimetric Assay Kit	E-BC-K783-M	Serum;Plasma;Animal and plant tissue
β -Hydroxybutyrate (Ketone Body) Colorimetric Assay Kit	E-BC-K785-M	Serum;Plasma;Urine;Animal tissue
Lipase (LPS) Activity Assay Kit	E-BC-K786-M	Serum;Plasma;Animal tissue;Cell sample
Glyceraldehyde-3-Phosphate Dehydrogenase (GAPDH) Activity Assay Kit	E-BC-K790-M	Tissue;Cell
Glycerol Kinase (GK) Activity Colorimetric Assay Kit	E-BC-K791-M	Animal tissue
Free Fatty Acids (NEFA/FFA) Colorimetric Assay Kit (Enzyme Method)	E-BC-K792-M	Serum;Plasma;Animal tissue;Cell
Monoacylglycerol Lipase (MAGL) Activity Colorimetric Assay Kit	E-BC-K161-S	Plant tissue
Phosphatidylcholine (PC) Colorimetric Assay Kit	E-BC-K793-M	Serum;Plasma;Animal tissue;Cell
Lipolysis Colorimetric Assay Kit	E-BC-K796-M	Serum;Plasma;Animal and plant tissue;Cell
Lipolysis Colorimetric Assay Kit	E-BC-K798-M	Cell
α -Glucosidase (α -GC) Activity Assay Kit	E-BC-K821-M	Tissue;Fungus
β -Glucosidase (β -GC) Activity Assay Kit	E-BC-K822-M	Tissue;Fungus
Protein Tyrosine Phosphatase-1B (PTP-1B) Activity Colorimetric Assay Kit	E-BC-K823-M	Animal and plant tissue;Cell
Uridine Diphosphate Glucose Pyrophosphorylase (UGP) Activity Assay Kit	E-BC-K857-M	Animal tissue;Plant tissue
Lactase Activity Colorimetric Assay Kit	E-BC-K865-S	Animal tissue

■ 5.5.4 Cross-links

Mitochondrial Respiration

TCA Cycle Flux

Metabolic Disorders

5.6. Amino Acids & Protein Metabolism

■ 5.6.1 Application Scenario

Functional analysis of amino acid-driven metabolic polarization and enzyme activity shifts in immune cell subsets.

Arginase activity assay (E-BC-K848-M) reflects metabolic reprogramming in macrophage polarization states.

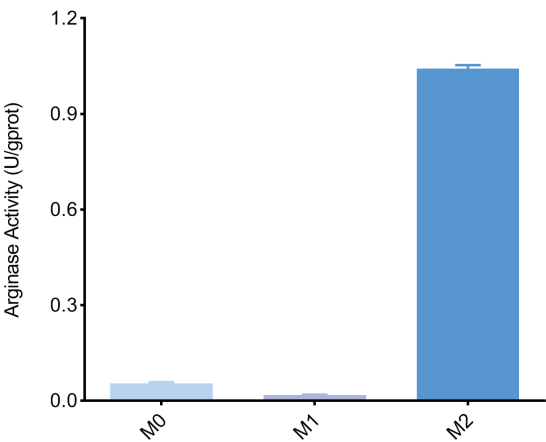


Fig 9. Arginase activity in polarized macrophage subsets.

■ 5.6.2 Assay Panels

Amino Acid Quantification & Profiling
Measurement of total and individual amino acid abundance reflecting metabolic composition.

Protein Turnover & Proteolytic Activity
Assessment of protein degradation systems and protease-mediated remodeling.

Nitrogen Metabolism Homeostasis
Evaluation of ammonia handling, urea cycle activity, and nitrogen balance regulation.

Metabolic Enzyme Signaling Networks
Analysis of key regulatory enzymes linking amino acid metabolism with cellular signaling pathways.

■ 5.6.3 Portfolio

The TCA cycle governs central carbon metabolism and energy generation. These assays quantify intermediates and enzyme activities reflecting metabolic flux. Enable evaluation of pathway remodeling under physiological and pathological states.

Product Name	Cat.No	Sample Type
Dipeptidyl Peptidase IV (DPP4) Activity Fluorometric Assay Kit	E-BC-F053	Serum;Plasma;Tissue;Cell
β-Secretase 1 (BACE 1) Activity Fluorometric Assay Kit	E-BC-F076	Serum;Plasma;Tissue;Cell
Hdroxyproline (HYP) Colorimetric Assay Kit	E-BC-K062-S	Serum;Animal tissue;Urine sample
Cathepsin D (CatD) Activity Fluorometric Assay Kit	E-BC-F052	Serum;Plasma;Animal tissue;Cell
Sirtuin 1 (SIRT-1) Activity Assay Kit	E-BC-F056	Animal tissue;Cell
Cathepsin B Activity Fluorometric Assay Kit	E-BC-F059	Animal tissue;Plant tissue;Cell
Matrix Metalloproteinase 3 (MMP-3) Activity Fluorometric Assay Kit	E-BC-F061	Serum;Plasma;Animal tissue;Cell
Tryptophan (Trp) Fluorometric Assay Kit	E-BC-F091	Serum;Plasma;Tissue;Cell
Glutamate Oxidase (GLOD) Activity Fluorometric Assay Kit	E-BC-F094	
Angiotensin Converting Enzyme (ACE1) Activity Assay Kit	E-BC-K003-M	Serum;Plasma;Animal tissue
Angiotensin Converting Enzyme (ACE1) Activity Assay Kit	E-BC-K003-S	Serum;Plasma;Animal tissue
β -Amylase Activity Assay Kit	E-BC-K005-M	Plant tissue
α -Amylase and β -Amylase Activity Assay Kit	E-BC-K006-M	Serum;Plasma;Saliva;Tissue
Total Amino Acids (T-AA) Colorimetric Assay Kit	E-BC-K055-M	Serum;Plasma;Urine;Tissue
Total Amino Acids (T-AA) Colorimetric Assay Kit	E-BC-K055-S	Serum;Plasma;Animal and plant tissue;Urine
Hdroxyproline (HYP) Colorimetric Assay Kit (Alkali Hydrolysis Method)	E-BC-K061-M	Serum;Plasma;Animal tissue
Hdroxyproline (HYP) Colorimetric Assay Kit (Alkali Hydrolysis Method)	E-BC-K061-S	Serum;Plasma;Animal tissue
Hydroxyproline (HYP) Colorimetric Assay Kit (Acid Hydrolysis Method)	E-BC-K062-M	Serum;Plasma;Animal tissue;Urine
Glycosylated Serum Protein (GSP) Colorimetric Assay Kit	E-BC-K069-M	Serum;Plasma
Acid Phosphatase (ACP) Activity Assay Kit	E-BC-K094-M	Serum;Plasma;Hydrothorax;Urine;Cell; Cell culture supernatant;Animal tissue
Acid Phosphatase (ACP) Activity Assay Kit	E-BC-K094-S	Serum;Plasma;Urine;Tissue;Cell
Glutamic Acid Colorimetric Assay Kit	E-BC-K118-S	Serum;Plasma;Animal tissue;Cell;Cell culture supernatant
Chitinase Activity Colorimetric Assay Kit	E-BC-K1224-M	Animal tissue;Cell
Choline Acetyltransferase (ChAT) Activity Assay Kit (Tissue Samples)	E-BC-K125-M	Animal tissue
Choline Acetyltransferase (ChAT) Activity Assay Kit (Tissue Samples)	E-BC-K125-S	Animal tissue
Biuret Protein Colorimetric Assay Kit	E-BC-K165-M	Serum;Plasma;Tissue
Biuret Protein Colorimetric Assay Kit	E-BC-K165-S	Serum;Plasma;Tissue
Bradford Protein Colorimetric Assay Kit	E-BC-K168-M	Serum;Plasma;Animal tissue;Plant tissue;Cell

Product Name	Cat.No	Sample Type
Bradford Protein Colorimetric Assay Kit	E-BC-K168-S	Serum;Plasma;Animal tissue;Plant tissue
Total Carbonyl Colorimetric Assay Kit	E-BC-K171-M	Serum;Plasma;Tissue
Total Carbonyl Colorimetric Assay Kit	E-BC-K171-S	Serum;Plasma;Tissue
Acetylcholinesterase (AChE) Activity Assay Kit	E-BC-K174-M	Serum;Plasma;Animal tissue;Cell
BCA Protein Colorimetric Assay Kit	E-BC-K318-M	Serum;Plasma;Cell culture supernatant;Tissue;Cell
Cysteine (Cys) Colorimetric Assay Kit	E-BC-K352-M	Serum;Plasma;Animal tissue;Cell
Diamine Oxidase (DAO) Activity Assay Kit	E-BC-K524-M	Serum;Plasma;Urine;Animal tissue;Cell sample
Creatine kinase (CK) Activity Assay Kit	E-BC-K558-S	Serum;Plasma;Animal tissue;Cell
β -Galactosidase (β -GAL) Activity Assay Kit	E-BC-K631-M	Cell;Animal tissue;Plant tissue
Glutamate Synthase (GOGAT) Activity Assay Kit	E-BC-K659-M	Serum;plant;Animal tissue
Glutaminase (GLS) Activity Assay Kit	E-BC-K660-M	Serum;Plasma;Animal tissue;Plant tissue
Glutamate Dehydrogenase (GDH) Activity Assay Kit	E-BC-K759-M	Serum;Plasma;Urine;Animal tissue
Ammonia Colorimetric Assay Kit	E-BC-K777-M	Serum;Plasma;Urine;Animal and plant tissue;Cell
Human Immunoglobulin G (IgG) Turbidimetric Assay Kit	E-BC-K812-M	Serum;Plasma
Dihydrofolate Reductase (DHFR) Activity Colorimetric Assay Kit	E-BC-K816-M	Serum;Plasma;Animal and plant tissue;Cell
Alanine (Ala) Colorimetric Assay Kit	E-BC-K839-M	Serum;Plasma;Animal tissue;Cell
Transglutaminases (TGs) Activity Colorimetric Assay Kit	E-BC-K840-M	
S-Adenosyl-Homocysteine Hydrolase (SAHH) Activity Colorimetric Assay Kit	E-BC-K841-M	Animal tissue;Cell
Trypsin Activity Assay Kit	E-BC-K843-M	Animal tissue
Pepsin Activity Assay Kit	E-BC-K844-M	Gastric;Intestinal tissue
Chymotrypsin Activity Colorimetric Assay Kit	E-BC-K845-M	Tissue
Phenylalanine (Phe) Colorimetric Assay Kit	E-BC-K846-M	Serum;Plasma;Urine;Animal and plant tissue;Cell;Cell culture supernatant
Aspartate (Asp) Colorimetric Assay Kit	E-BC-K849-M	Serum;Plasma;Animal tissue;Plant tissue;Cell
L-Arginine (L-Arg) Colorimetric Assay Kit	E-BC-K850-M	Serum;Plasma;Urine;Plant;Animal tissue
γ -Aminobutyric Acid (GABA) Colorimetric Assay Kit	E-BC-K852-M	Plant;Animal tissue
Glutamine (Gln) Colorimetric Assay Kit	E-BC-K853-M	Serum;Plasma;Tissue;Cell;Cell culture supernatant
Homocysteine (Hcy) Colorimetric Assay Kit	E-BC-K854-M	Serum;Plasma;Urine
Pectinase Activity Colorimetric Assay Kit	E-BC-K867-M	Plant tissue
NETosis Colorimetric Assay Kit	E-BC-K884-M	Cell
Protease Activity Colorimetric Assay Kit	E-BC-K886-M	Animal tissue;Plant tissue
Histamine Colorimetric Assay Kit	E-BC-K893-M	Serum;Plasma;Animal tissue;Plant tissue;Cell
Neutrophil Elastase (NE) Activity Colorimetric Assay Kit	E-BC-K899-M	Animal tissue

Product Name	Cat.No	Sample Type
Creatine Colorimetric Assay Kit(Enzyme Method)	E-BC-K900-M	Animal tissue;Urine;Serum;Plasma
Glutamic Acid (Glu) Colorimetric Assay Kit	E-BC-K903-M	Serum;Plasma;Urine;Animal tissue;Plant tissue;Cell
Asparaginase (ASNase) Activity Colorimetric Assay Kit	E-BC-K909-M	Serum;Plasma
Arginase Activity Colorimetric Assay Kit	E-BC-K848-M	Tissue;Cell
γ-Aminobutyric Acid (GABA) Fluorometric Assay Kit	E-BC-F048	Serum;Plasma;Tissue;Cell
Neuraminidase (NA) Activity Fluorometric Assay Kit	E-BC-F083	Animal tissue
Cystathionine- β -synthase (CBS) Activity Colorimetric Assay Kit	E-BC-K811-M	Animal tissue;Cell
Histone Deacetylase (HDAC) Activity Fluorometric Assay Kit	E-BC-F051	Serum;Plasma;Animal tissue;Cell

■ 5.6.4 Cross-links

Nitrogen Metabolism

Immune Activation

Liver Function

5.7 Liver & Renal Function

■ 5.7.1 Application Scenario

Comparative evaluation of tissue-specific enzyme leakage and metabolic injury markers across biological matrices.

ALT assay (E-BC-K1300-M) quantifies hepatic enzyme activity across serum, liver tissue, and cell systems, indicating organ-specific metabolic activity.

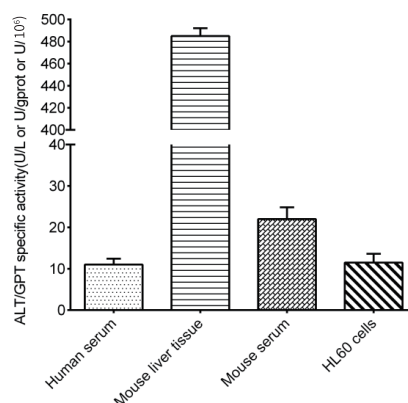


Fig 10. ALT activity across serum and tissue samples.

■ 5.7.2 Assay Panels

Hepatocellular Injury Markers

Evaluation of enzyme leakage and biochemical indicators of liver tissue damage.

Renal Filtration and Excretory Function

Assessment of kidney filtration efficiency and metabolic waste clearance.

Detoxification Enzyme Systems

Analysis of xenobiotic metabolism and endogenous detoxification capacity.

Metabolic Waste and Functional Biomarkers

Measurement of systemic waste products reflecting organ functional status.

■ 5.7.3 Portfolio

Liver and kidney maintain systemic metabolic homeostasis and detoxification. These assays measure enzyme leakage and metabolite clearance indicators. Provide sensitive readouts of tissue injury and metabolic impairment.

Product Name	Cat.No	Sample Type
Aspartate Aminotransferase (AST/GOT) Activity Colorimetric Assay Kit (Aspartate Substrate Method)	E-BC-K1301-M	Animal tissue;Cell;Serum;Plasma
Uric Acid (UA) Fluorometric Assay Kit	E-BC-F018	Serum;Plasma;Urine;Animal tissue
Cytochrome P450 2D6 (CYP2D6) Activity Fluorometric Assay Kit	E-BC-F023	Liver microsome
Alanine Aminotransferase (ALT/GPT) Activity Fluorometric Assay Kit	E-BC-F038	Serum;Plasma;Animal tissue
Aspartate Aminotransferase (AST/GOT) Activity Fluorometric Assay Kit	E-BC-F043	Cell;Animal tissue;Serum;Plasma;Other liquid sample
Aldehyde Dehydrogenase (ALDH) Fluorometric Activity Assay Kit	E-BC-F044	Serum;Plasma;Animal tissue;Cell
Monoamine Oxidase (MAO) Activity Fluorometric Assay Kit	E-BC-F093	Serum;Plasma;Animal tissue;Cell
Monoamine Oxidase (MAO) Activity Assay Kit	E-BC-K008-M	Animal tissue
Monoamine Oxidase (MAO) Activity Assay Kit	E-BC-K008-S	Animal tissue
Alkaline Phosphatase (ALP) Activity Assay Kit (PNPP Method)	E-BC-K009-M	Serum;Plasma;Animal tissue;Cell
Acid Phosphatase (ACP) Activity Assay Kit (PNPP Method)	E-BC-K010-M	Serum;Plasma;Tissue
Uric Acid (UA) Colorimetric Assay Kit	E-BC-K016-M	Serum;Plasma;Urine
Uric Acid (UA) Colorimetric Assay Kit	E-BC-K016-S	Serum;Plasma;Urine

Product Name	Cat.No	Sample Type
Cholinesterase (CHE) Activity Assay Kit	E-BC-K052-M	Serum;Plasma;Animal tissue
Cholinesterase (CHE) Activity Assay Kit	E-BC-K052-S	Whole blood;Serum;Plasma;Tissue;Cell
Albumin (ALB) Colorimetric Assay Kit (Bromocresol Green Method)	E-BC-K057-M	Serum;Plasma
Albumin (ALB) Colorimetric Assay Kit (Bromocresol Green Method)	E-BC-K057-S	Serum;Plasma
β -N-Acetylglucosaminidase (NAG) Activity Assay Kit	E-BC-K064-M	Serum;Plasma;Animal tissue;Cell
Alkaline Phosphatase (ALP) Activity Assay Kit	E-BC-K091-M	Serum;Plasma;Tissue;Cell
Alkaline Phosphatase (ALP) Activity Assay Kit	E-BC-K091-S	Serum;Plasma;Urine;Tissue;Cell
α -Hydroxybutyrate Dehydrogenase (α -HBDH) Activity Colorimetric Assay Kit	E-BC-K1102-M	Serum;Plasma
Oxalate (Oxalic Acid) Colorimetric Assay Kit (Extraction method)	E-BC-K1106-M	Serum;Plasma;Animal and plant tissue;Urine
γ -Glutamyl Transferase (GGT/ γ -GT) Activity Assay Kit	E-BC-K126-M	Serum;Plasma;Animal tissue
Alanine Aminotransferase (ALT/GPT) Activity Colorimetric Assay Kit	E-BC-K1300-M	Serum;Plasma;Animal tissue;Cell
Alkaline Phosphatase (ALP) Activity Colorimetric Assay Kit(Method of NPP-AMP)	E-BC-K1304-M	Animal tissue;Cell;Serum;Plasma
Blood Ammonia Colorimetric Assay Kit	E-BC-K145-M	Serum;Plasma
Blood Ammonia Colorimetric Assay Kit	E-BC-K145-S	Serum;Plasma
Total Bile Acid (TBA) Colorimetric Assay Kit	E-BC-K181-M	Serum;Animal tissue
Urea (BUN) Colorimetric Assay Kit (Urease Method)	E-BC-K183-M	Serum;Plasma;Urine;Saliva;Milk
Urea (BUN) Colorimetric Assay Kit (Urease Method)	E-BC-K183-S	Serum;Plasma;Urine;Saliva;Milk
Creatinine (Cr) Colorimetric Assay Kit (Sarcosine Oxidase Method)	E-BC-K188-M	Serum;Plasma;Urine
5' -Nucleotidase (5'-NT) Activity Assay Kit	E-BC-K196-M	Serum;Plasma;Animal tissue
Adenosine Deaminase (ADA) Activity Assay Kit	E-BC-K197-M	Serum;Plasma;Animal tissue
Alanine Aminotransferase (ALT/GPT) Activity Assay Kit	E-BC-K235-M	Serum;Plasma;Animal tissue;Cell;Cell culture supernatant
Alanine Aminotransferase (ALT/GPT) Activity Assay Kit	E-BC-K235-S	Serum;Plasma;Cell;Animal tissue
Aspartate Aminotransferase (AST/GOT) Activity Assay Kit	E-BC-K236-M	Serum;Plasma;Animal tissue;Cell;Cell culture supernatant
Aspartate Aminotransferase (AST/GOT) Activity Assay Kit	E-BC-K236-S	Serum;Plasma;Animal tissue
Urine Protein Colorimetric Assay Kit	E-BC-K252-M	Urine
Urea (BUN) Colorimetric Assay Kit (Diacetyl Oxime Method)	E-BC-K329-S	Serum;Plasma;Saliva;Urine
Creatine Kinase (CK) Activity Assay Kit	E-BC-K558-M	Serum;Plasma;Animal tissue;Cell
Aldehyde Dehydrogenase (ALDH) Activity Assay Kit	E-BC-K565-M	Serum;Plasma;Animal tissue
Leucine Aminopeptidase (LAP) Activity Assay Kit	E-BC-K568-M	Serum;Plasma;Animal tissue
Total Bilirubin (TBIL) Colorimetric Assay Kit	E-BC-K760-M	Serum;Plasma
Direct Bilirubin (DBIL) Colorimetric Assay Kit	E-BC-K761-M	Serum;Plasma
α -L-Fucosidase (AFU) Activity Assay Kit	E-BC-K762-M	Serum;Plasma;Animal tissue

Product Name	Cat.No	Sample Type
Alcohol Dehydrogenase (ADH) Activity Assay Kit	E-BC-K763-M	Serum;Plasma;Animal tissue
Acetaldehyde Colorimetric Assay Kit	E-BC-K769-M	Serum;Plasma;Wine
Glutathione-S-Transferase (GST) Activity Assay Kit (DTNB Method)	E-BC-K800-M	Serum;Plasma;Animal tissue
Ethanol Colorimetric Assay Kit	E-BC-K891-M	Serum;Plasma;Wine
Oxalate Colorimetric Assay Kit	E-BC-K892-S	Serum;Plasma;Urine;Plant and animal tissue
Uricase Activity Colorimetric Assay Kit	E-BC-K896-M	Animal tissue;Plant tissue
Uric Acid (UA) Colorimetric Assay Kit (Enzyme Method)	E-BC-K897-M	Serum;Plasma

■ 5.7.4 Cross-links

Drug Toxicity

Amino Acid Metabolism

Oxidative Stress

5.8 Inorganic Ions

■ 5.8.1 Application Scenario

Quantitative determination of essential ion distribution across biological compartments for evaluation of ionic homeostasis.

Potassium assay (E-BC-K279-M) measures ion concentration variability across serum, tissue, and cellular environments.

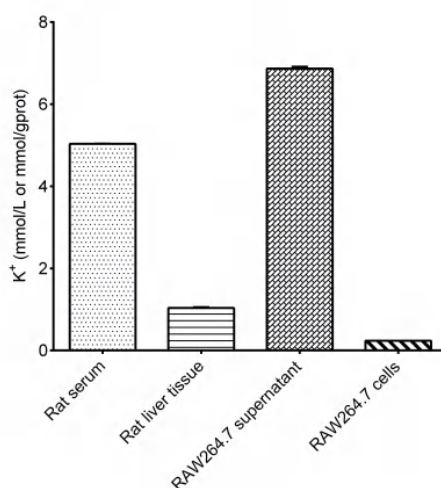


Fig 11. Potassium levels in biological samples.

■ 5.8.2 Assay Panels

Electrolyte Homeostasis

Quantification of major physiological ions regulating osmotic and cellular balance.

Trace Metal Metabolism

Assessment of biologically essential and regulatory trace metal concentrations.

Mineral and Phosphate Metabolism

Evaluation of phosphate balance and mineral-associated metabolic regulation.

Toxic Metal Burden

Measurement of heavy metal accumulation and associated biochemical disruption.

■ 5.8.3 Portfolio

Ionic balance is essential for enzymatic activity and cellular signaling. These assays quantify electrolytes, trace metals, and toxic ions. Enable evaluation of mineral homeostasis and cellular ionic regulation.

Product Name	Cat.No	Sample Type
Phosphorus (Pi) Colorimetric Assay Kit (Phospho Molybdate Method)	E-BC-K245-S	Serum;Plasma;Tissue
Total Iron Binding Capacity (TIBC) Colorimetric Assay Kit	E-BC-K071-M	Serum;Plasma
Total Iron Binding Capacity (TIBC) Colorimetric Assay Kit	E-BC-K071-S	Serum;Plasma
Calcium (Ca) Colorimetric Assay Kit	E-BC-K103-M	Serum;Plasma;Urine;Tissue
Zinc (Zn) Colorimetric Assay Kit	E-BC-K137-M	Serum;Plasma;Urine;Milk
Iron Colorimetric Assay Kit	E-BC-K139-M	Serum;Tissue
Iron Colorimetric Assay Kit	E-BC-K139-S	Serum;Tissue
Magnesium (Mg) Colorimetric Assay Kit	E-BC-K162-M	Serum;Plasma
Magnesium (Mg) Colorimetric Assay Kit	E-BC-K162-S	Serum;Plasma
Chlorine (Cl) Colorimetric Assay Kit	E-BC-K189-M	Serum;Plasma;Animal tissue
Sodium (Na) Colorimetric Assay Kit	E-BC-K207-M	Serum;Plasma;Tissue
Phosphorus (Pi) Colorimetric Assay Kit (Phospho Molybdate Method)	E-BC-K245-M	Serum;Plasma;Tissue
Potassium (K) Turbidimetric Assay Kit	E-BC-K279-M	Serum;Plasma;Milk;Animal tissue;Cell;Cell culture supernatant
Copper (Cu ²⁺) Colorimetric Assay Kit (Complexing Method)	E-BC-K300-M	Serum;Plasma;Tissue
Sucrase Activity Assay Kit	E-BC-K751-M	Animal tissue
Phosphate Colorimetric Assay Kit(Malachite Green Method)	E-BC-K832-M	Serum;Plasma;Tissue;Cell

Product Name	Cat.No	Sample Type
Fluo-4 Calcium Fluorometric Assay Kit	E-BC-F100	Cell
Lead Ion (Pb ²⁺) Fluorometric Assay Kit	E-BC-F106	Water
Selenium Colorimetric Assay Kit	E-BC-K776-M	Animal tissue;Cell
Hexavalent Chromium Ion (Cr ⁶⁺) Colorimetric Assay Kit	E-BC-K940-M	Water
Total Iron Binding Capacity (TIBC) And Serum Iron Assay Kit (Direct Method)	E-BC-K945-M	Serum;Plasma
Sodium (Na ⁺) Colorimetric Assay Kit	E-BC-K207-S	Serum;Plasma;Animal tissue

■ 5.8.4 Cross-links

Redox Egulation

Mitochondrial Function

Signal Transduction

5.9 Plant Physiology Series

■ 5.9.1 Application Scenario

Assessment of carbohydrate metabolism and stress-associated metabolite accumulation across plant and fungal species.

Trehalose assay (E-BC-K754-M) quantifies osmoprotectant distribution across fungal species under metabolic variation.

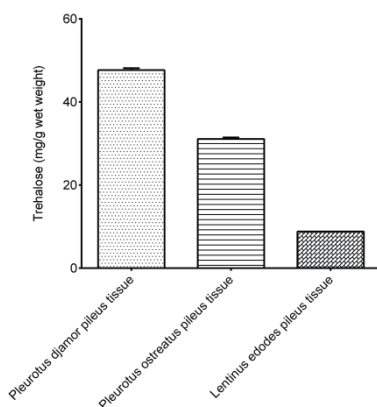


Fig 12. Trehalose levels in fungal species.

■ 5.9.2 Assay Panels

Carbon Metabolism & Carbohydrate Dynamics

Assessment of carbohydrate synthesis, storage, and utilization in plant systems.

Plant Stress Physiology

Evaluation of biochemical stress responses under environmental or biotic stress conditions.

Antioxidant Defense in Plant Systems

Quantification of enzymatic and non-enzymatic antioxidant mechanisms in plants.

Nitrogen and Phosphorus Metabolism

Assessment of nutrient assimilation and elemental cycling in plant growth regulation.

■ 5.9.3 Portfolio

Plant metabolism integrates carbon flux, nutrient balance, and stress adaptation. These assays measure key metabolites and enzyme activities in plant systems. Support physiological analysis under environmental stress conditions.

Product Name	Cat.No	Sample Type
Sucrose Fluorometric Assay Kit	E-BC-F042	Plant tissue
α -Amylase Activity Assay Kit	E-BC-K007-M	Animal tissue;Plant tissue
Vitamin E (VE) Colorimetric Assay Kit	E-BC-K033-M	Serum;Plasma;Tissue
Vitamin E (VE) Colorimetric Assay Kit	E-BC-K033-S	Serum;Plasma;Tissue
Vitamin C (VC) Colorimetric Assay Kit	E-BC-K034-M	Serum;Plasma;Tissue
Vitamin C (VC) Colorimetric Assay Kit	E-BC-K034-S	Serum;Plasma;Tissue
Amylose Colorimetric Assay Kit	E-BC-K1200-M	Plant tissue
Amylopectin Colorimetric Assay Kit	E-BC-K1201-M	Plant tissue
Soluble Starch Synthase (SSS) Activity Colorimetric Assay Kit	E-BC-K1202-M	Plant tissue
Granule-Bound Starch Synthase (GBSS) Activity Colorimetric Assay Kit	E-BC-K1203-M	Plant tissue
Starch Branching Enzyme (SBE) Activity Colorimetric Assay Kit	E-BC-K1204-M	Plant tissue
Starch Phosphorylase (SP) Activity Colorimetric Assay Kit	E-BC-K1205-M	Plant tissue
Starch Debranching Enzyme (DBE) Activity Colorimetric Assay Kit	E-BC-K1206-M	Plant tissue
Sucrose Synthase- II (SS- II) Activity Colorimetric Assay Kit	E-BC-K1207-M	Plant tissue
Sucrose Synthase- I (SS- I) Activity Colorimetric Assay Kit	E-BC-K1208-M	Plant tissue
Phytic Acid Colorimetric Assay Kit	E-BC-K1210-M	Liquid;Plant tissue

Product Name	Cat.No	Sample Type
Phytase Activity Colorimetric Assay Kit	E-BC-K1211-M	Plant tissue
Cellulase (CL) Activity Colorimetric Assay Kit	E-BC-K1217-M	Soil;Tissue bacteria;Bacterial supernatant;Other liquid
Proline (Pro) Colorimetric Assay Kit	E-BC-K177-M	Plant tissue;Honey sample
Proline (Pro) Colorimetric Assay Kit	E-BC-K177-S	Plant tissue;Honey
Polyphenol Oxidase (PPO) Activity Assay Kit	E-BC-K259-M	Plant tissue
Polyphenol Oxidase (PPO) Activity Assay Kit	E-BC-K259-S	Plant tissue
Plant Flavonoids Colorimetric Assay Kit	E-BC-K284-M	Plant tissue
Plant Flavonoids Colorimetric Assay Kit	E-BC-K284-S	Plant tissue
Ascorbate Peroxidase (APX) Activity Assay Kit	E-BC-K353-S	Plant tissue
Total Phenols Colorimetric Assay Kit (Plant samples)	E-BC-K354-M	Plant tissue
Total Phenols Colorimetric Assay Kit (Plant Samples)	E-BC-K354-S	Plant tissue
Phenylalanine Ammonia Lyase (PAL) Activity Assay Kit	E-BC-K522-S	Serum;Plasma;Animal tissue;Cell
Phosphoenolpyruvate Carboxylase (PEPC) Activity Assay Kit	E-BC-K613-M	Plant tissue
Glycolate Oxidase Activity Assay Kit	E-BC-K692-S	Plant tissue
Trehalose Colorimetric Assay Kit (Enzyme Method)	E-BC-K754-M	Fungus;Algae;Plant tissue
Total Carbohydrate Colorimetric Assay Kit	E-BC-K755-M	Serum;Plasma;Tissue
Maltose Colorimetric Assay Kit	E-BC-K756-M	Plant tissue
Revertose Colorimetric Assay Kit (DNS Method)	E-BC-K757-M	Serum;Plasma;Animal and plant tissue
Tannins Colorimetric Assay Kit	E-BC-K820-M	Juice;Plant tissue
Tyrosine Ammonia-lyase (TAL) Activity Assay Kit	E-BC-K851-M	Fruit juices;Plant;Animal tissue
Plant Root Activity Assay Kit	E-BC-K855-S	Plant tissue
Adenosine Diphosphate Glucose Phosphorylase(AGP) Activity Assay Kit	E-BC-K856-M	Plant tissue
Plant Nitrate Nitrogen Colorimetric Assay Kit	E-BC-K858-M	plant tissue;Soil
Plant Ammonium Nitrogen Colorimetric Assay Kit	E-BC-K859-M	Plant tissue
Proline Dehydrogenase (ProDH) Activity Assay Kit	E-BC-K860-M	Tissue
Lipoxygenase (LOX) Activity Assay Kit	E-BC-K861-M	Plant sample
Nitrite Reductase(NiR) Activity Colorimetric Assay Kit	E-BC-K863-M	Plant tissue
Plant Soluble Sugar Colorimetric Assay Kit	E-BC-K866-M	Plant tissue
Chitinase Activity Colorimetric Assay Kit	E-BC-K868-M	Shell tissue;Fungus
Nitrate Colorimetric Assay Kit	E-BC-K895-M	Serum;Plasma;Urine;Tissue;Cell;Cell culture supernatant
β -1,3-Glucanase Activity Colorimetric Assay Kit	E-BC-K1223-M	Plant tissue
Fructose Colorimetric Assay Kit	E-BC-K134-M	Serum;Plasma;Plant tissue
Dehydroascorbic Acid Colorimetric Assay Kit	E-BC-K864-M	Plant tissue

■ 5.9.4 Cross-links

Oxidative Stress Defense

Carbon Metabolism

Environmental Stress Response

5.10 Inhibitor Screening

■ 5.10.1 Application Scenario

Quantitative evaluation of enzyme inhibition dynamics for pharmacological candidate screening under dose-dependent conditions.

DPP4 inhibitor assay (E-BC-D007) characterizes compound-dependent suppression of enzymatic activity using fluorometric readout.

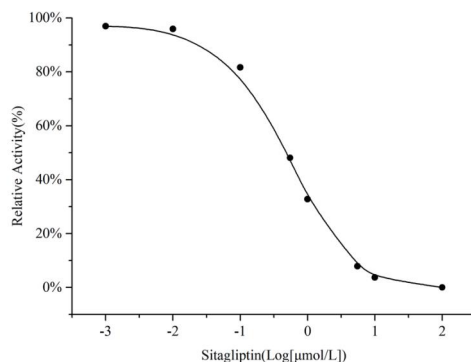


Fig 13. Dose-dependent inhibition of DPP4 activity.

■ 5.10.2 Assay Panels

Metabolic Enzyme Drug Target Screening

Evaluation of pharmacological inhibition against key metabolic enzymes and disease targets.

Carbohydrate Metabolism Inhibition

Assessment of compounds targeting carbohydrate-digesting and regulatory enzymes.

Lipid Metabolism Target Screening

Evaluation of inhibitors affecting cholesterol and lipid metabolic pathways.

Disease-Associated Enzyme Inhibition

Screening of modulators targeting enzymes linked to metabolic and degenerative diseases.

■ 5.10.3 Portfolio

Enzyme inhibition assays enable functional evaluation of metabolic drug targets. These assays quantify dose-dependent suppression of enzymatic activity. Support target validation and early-stage drug discovery workflows.

Product Name	Cat.No	Sample Type
Dipeptidyl Peptidase IV (DPP4) Inhibitor Screening Assay Kit	E-BC-D007	Inhibitor
Ferroptosis Suppressor Protein-1 (FSP-1) Inhibitor Screening Kit	E-BC-D008	Inhibitor
3-Hydroxy-3-methylglutaryl-CoA Reductase (HMGR) Inhibitor Screening Kit	E-BC-D011	Inhibitor
Angiotensin Converting Enzyme 2 (ACE2) Inhibitor Screening Kit	E-BC-D001	Inhibitor
Matrix Metalloproteinase 3 (MMP-3) Inhibitor Screening Kit	E-BC-D003	Inhibitor
Neuraminidases (NA) Inhibitor Screening Assay Kit	E-BC-D004	Inhibitor
Monoamine Oxidase A (MAO-A) Inhibitor Screening Kit	E-BC-D012	Inhibitor
Angiotensin Converting Enzyme 1 (ACE1) Inhibitor Screening Kit	E-BC-D016	Inhibitor
Alpha-Amylase Inhibitor Screening Kit	E-BC-D018	Inhibitor
Xanthine Oxidase (XOD) Inhibitor Screening Kit	E-BC-D019	Inhibitor
Alpha-Glucosidase Inhibitor Screening Kit	E-BC-D017	Inhibitor

■ 5.10.4 Cross-links

Metabolic Pathway Regulation

Disease-associated Enzymes

Pharmacological Screening

5.11 Other Metabolism-Associated Functional Assays

■ Portfolio

Supports extended metabolic analysis through functional enzymology, signaling, and cellular response assays.

Functional Enzyme & Signaling

Key enzyme activities and metabolic signaling mediators.

Cellular Regulation & Stress

Cell state, stress response, and metabolic dysfunction markers.

Reporter Gene Readouts

Quantitative luminescence-based functional assays.

5.12 Sample Preparation & Subcellular Extraction Tools

■ Portfolio

Enables efficient sample preparation and preservation of metabolic integrity.

Organelle Isolation

Subcellular fractionation for targeted metabolic analysis.

Protein & Lysis Systems

Optimized extraction for proteins and enzymatic components.

Product Name	Cat.No	Sample Type
Cyclooxygenase (COX) Activity Fluorometric Assay Kit	E-BC-F050	Animal tissue
Angiotensin I Converting Enzyme 2 (ACE2) Activity Fluorescence Assay Kit	E-BC-F054	Serum;Plasma;Animal tissue;Cell
Sialic Acid (SA) Colorimetric Assay Kit	E-BC-K068-M	Serum;Plasma;Saliva;Urine;Hydrothorax;Tissue
Sialic Acid (SA) Colorimetric Assay Kit	E-BC-K068-S	Serum;Plasma;Saliva;Urine;Hydrothorax;Tissue;Cell
Formate Colorimetric Assay Kit	E-BC-K1100-M	Serum;Plasma;Animal tissue
Hydrogen Sulfide (H ₂ S) Colorimetric Assay Kit (Indirect Method)	E-BC-K355-M	Serum;Plasma;Animal tissue
Sialic Acid (SA) Colorimetric Assay Kit (Enzyme Method)	E-BC-K813-M	Serum;Plasma;Saliva;Milk
Tartrate Resistant Acid Phosphatase (TRAP) Activity Assay Kit	E-BC-K871-M	Serum;Plasma;Urine;Animal tissue;Cell sample
Fluoride Resistant Acid Phosphatase (FRAP) Activity Assay Kit	E-BC-K872-M	Serum;Plasma;Cell;Animal tissue sample
Hydrogen sulfide (H ₂ S) Colorimetric Assay Kit (Direct Method)	E-BC-K894-M	Serum;Plasma;Animal tissue
Dual Luciferase Reporter Gene Luminescence Assay Kit (Flash Type)	E-BC-F071	Cell
Firefly Luciferase Reporter Gene Luminescence Assay Kit (Flash Type)	E-BC-F072	Cell
Dual Luciferase Reporter Gene Luminescence Assay Kit (Glow Type)	E-BC-F074	Cell
Firefly Luciferase Reporter Gene Luminescence Assay Kit (Glow Type)	E-BC-F075	Cell
Cellular Senescence Fluorometric Assay Kit	E-BC-F086	Cell
Animal Tissue Mitochondrial Extraction Assay Kit	E-BC-E001	Animal Tissue
Total Protein Extraction Assay Kit	E-BC-E002	Animal tissue;Cell
ALTD lysis buffer	E-BC-L001	Cell
CAMT lysis buffer	E-BC-L002	Cell
Plant Mitochondrial Extraction Assay Kit(Enzyme Method)	E-BC-E005	Plant tissue

5.13 Representative Citations

Citation Information	IF	Cat.No
Xu, Y., et al., A novel antidiuretic hormone governs tumour-induced renal dysfunction. <i>Nature</i> , 2024. 625(7996): p. 815-821.	64.8	E-BC-K188-M E-BC-K183-M
Zhang, S., et al., Light modulates glucose metabolism by a retina-hypothalamus-brown adipose tissue axis. <i>Cell</i> , 2023. 186(2): p. 398-412.	64.5	E-BC-K044-M E-BC-K013-S
Wei, Y., et al., Dietary cysteine drives body fat loss via FMRFamide signaling in <i>Drosophila</i> and mouse. <i>Cell Research</i> , 2023. 33(6): p. 434-447.	44.1	E-BC-K352-M
Wang, X., et al., Prolonged hypernutrition impairs TREM2-dependent efferocytosis to license chronic liver inflammation and NASH development. <i>Immunity</i> , 2023. 56(1): p. 58-77.	43.4	E-BC-K014
Wu, W., et al., Photodynamic gel-bombs enhance tumor penetration and downstream synergistic therapies. <i>Signal Transduction and Targeted Therapy</i> , 2025. 10(1): p. 51. (Note: Article number, Volume/Issue preliminary)	40.8	E-BC-K138-F
Yang, Y., et al., Precise targeting of transcriptional co-activators YAP/TAZ annihilates chemoresistant brCSCs by alteration of their mitochondrial homeostasis. <i>Signal Transduction and Targeted Therapy</i> , 2025. 10(1): p. 33. (Note: Article number, Volume/Issue preliminary)	40.8	E-BC-K020-M E-BC-K030-M
Huang, Z., et al., Exosome-mediated miR-144-3p promotes ferroptosis to inhibit osteosarcoma proliferation, migration, and invasion through regulating ZEB1. <i>Molecular Cancer</i> , 2023. 22(1): p. 113.	37.3	E-BC-K880-M
Zhang, X., et al., Engineered platelets as targeted protein degraders and application to breast cancer models. <i>Nature Biotechnology</i> , 2024. 42(12): p. 1827-1837. (Note: Online ahead of print, converted to published volume/issue)	33.1	E-BC-K183-M
Liu, Y., et al., Pregnancy-induced changes to the gut microbiota drive macrophage pyroptosis and exacerbate septic inflammation. <i>Immunity</i> , 2023. 56(2): p. 336-352.	32.4	E-BC-K318-M
Lin, Y., et al., Efficient Therapy of Inflammatory Bowel Disease (IBD) with Highly Specific and Durable Targeted Ta2C Modified with Chondroitin Sulfate (TACS). <i>Advanced Materials</i> , 2023. 35(28): p. e2301585.	29.4	E-BC-F013
Li, Y., et al., Bone marrow immune cells respond to fluctuating nutritional stress to constrain weight regain. <i>Cell Metabolism</i> , 2023. 35(9): p. 1563-1578.	29.0	E-BC-K318-M
Zhang, S., et al., Hyodeoxycholic acid alleviates non-alcoholic fatty liver disease through modulating the gut-liver axis. <i>Cell Metabolism</i> , 2023. 35(10): p. 1752-1766.	29.0	E-BC-K760-M
Mao, Y., et al., Hypoxia induces mitochondrial protein lactylation to limit oxidative phosphorylation. <i>Cell Research</i> , 2024. 34(1): p. 13-30.	28.1	E-BC-K138-F
Liu, Y., et al., Muscle-derived small extracellular vesicles induce liver fibrosis during overtraining. <i>Cell Metabolism</i> , 2025. 37(2): p. 391-407.	27.7	E-BC-K236-M E-BC-K235-M
Chen, D., et al., Circular RNA circBNC2 inhibits tumorigenesis by modulating ferroptosis and acts as a nanotherapeutic target in prostate cancer. <i>Molecular Cancer</i> , 2025. 24(1): p. 70.	27.7	E-BC-K028-M E-BC-K881-M E-BC-K030-M
Zhang, Y., et al., Circular RNA-encoded oncogenic PIAS1 variant blocks immunogenic ferroptosis by modulating the balance between SUMOylation and phosphorylation of STAT1. <i>Molecular Cancer</i> , 2024. 23(1): p. 131.	27.7	E-BC-K030-M
Sun, D., et al., Integrative clinical and preclinical studies identify FerroTerminator1 as a potent therapeutic drug for MASH. <i>Cell Metabolism</i> , 2024. 36(9): p. 2010-2029.	27.7	E-BC-K792-M
Wang, Z., et al., TM7SF3 controls TEAD1 splicing to prevent MASH-induced liver fibrosis. <i>Cell Metabolism</i> , 2024. 36(6): p. 1252-1268.	27.7	E-BC-K235-S
Song, P., et al., rs822336 binding to C/EBP β and NFIC modulates induction of PD-L1 expression and predicts anti-PD-1/PD-L1 therapy in advanced NSCLC. <i>Molecular Cancer</i> , 2024. 23(1): p. 101.	27.7	E-BC-K046-M
Wang, J., et al., Inhalable Ce Nanozyme-Backpacked Phage Aims at Ischemic Cerebral Injury by M1-Microglia Hitchhiking. <i>Advanced Materials</i> , 2025. 37(10): e2419903.	27.4	E-BC-K020-M E-BC-K025-M

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