

Metabolomics-Driven Multi-Omics Solutions

Metabolomics captures the functional output of biological systems, providing a direct readout of phenotype. At Novogene, it sits at the core of our multi-omics solutions, integrating NGS-based transcriptomics, microbiome sequencing, proteomics, and metabolomics within a single, unified workflow, without added complexity.

From study design to integrated biological interpretation, we handle the end-to-end process, empowering researchers to identify disease mechanisms, discover robust biomarkers, and accelerate therapeutic development with confidence.

Key Features and Advantages



End-to-End Multi-Omics Workflow

An end-to-end multi-omics solution integrating NGS, proteomics, microbiome, and metabolomics to generate consistent data and reliable, publication-ready insights.



Proven Multi-Omics Expertise

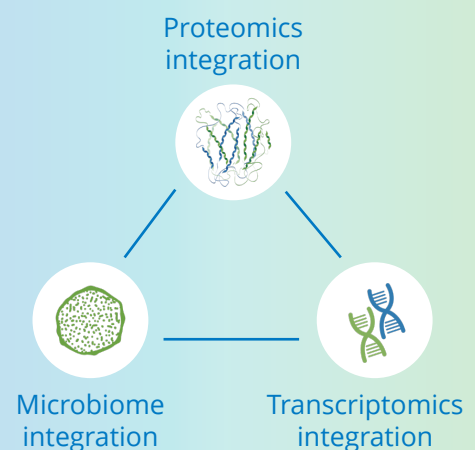
Applied across disease mechanisms, biomarkers, therapeutics, and microbiome research.



Precise Biomarker Identification

From complex omics data to biologically meaningful, actionable biomarkers through multi-omics integration.

Metabolomics as the core engine



Areas of Application



Uncovering Disease Mechanisms

Metabolic pathway dysregulation underlies cancer, metabolic, and neurodegenerative diseases.



Biomarker Identification & Validation

Discovery of diagnostic and prognostic biomarkers (e.g., for early cancer detection).



Drug Mechanism & Efficacy Evaluation

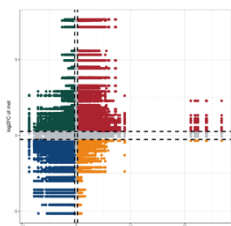
Revealing drug mechanisms through metabolic pathway changes.



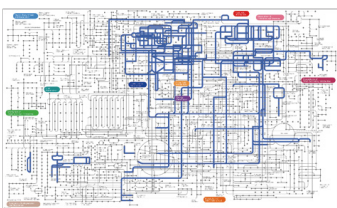
Host-microbiome Interaction Studies

Linking host-microbiome interactions to functional metabolic outcomes.

Demo Analysis Results



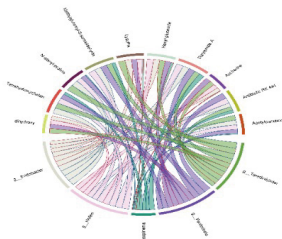
Nine quadrant analysis



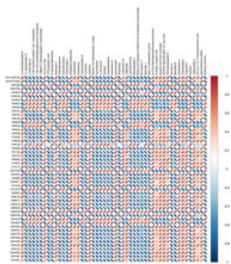
KEGG iPath analysis



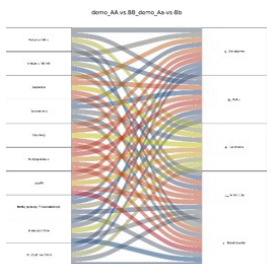
O2PLS data integration analysis



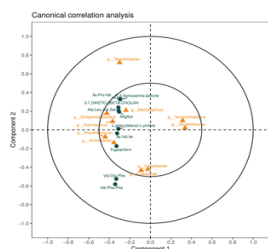
Correlation chord diagram



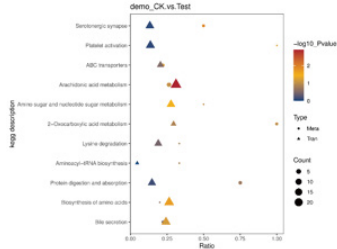
Correlation heatmap



Correlation sankey



Canonical correlation analysis (CCA)



KEGG enrichment bubble diagram

Publications

Title	Type of Product	Application Scenario	Publication Year	IF
A multi-omics molecular landscape of 30 tissues in aging female rhesus macaques	Metabolomics+Transcriptomics +Proteomics	Aging Biology Research	2025.11	32.1
Fructose drives colorectal cancer progression by regulating crosstalk between cancer-associated fibroblasts and tumour cells	Metabolomics+Transcriptomics	Mechanisms of Cancer Progression	2025.09	25.8
Inflammatory microenvironment-responsive microsphere vehicles modulating gut microbiota and intestinal inflammation for intestinal stem cell niche remodeling in inflammatory bowel disease	Metabolomics+Metagenomics +Transcriptomics	Therapeutic Strategies for Immune Diseases	2025.03	15.8

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