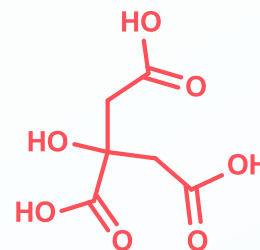




# Central Carbon Metabolism Panel



## Central Carbon Metabolism

Central carbon metabolism involves enzymatic conversion of sugars into metabolic precursors that are used to generate the entire biomass of the cell. The metabolites in this panel include key citric acid cycle compounds that connects carbohydrate, fat, and protein metabolism. In addition to supplying key metabolic precursors, central carbon metabolism is used to oxidize simple sugar molecules obtained from food to supply energy to living systems. Measurement of central carbon metabolites has great industrial relevance since it may allow engineering of selected metabolic steps to optimize carbon flow toward precursors for industrial important metabolites.

## Applications

- ▶ Cell culture bioprocessing
- ▶ Mitochondrial function
- ▶ Bacterial metabolism re-engineering
- ▶ Energy metabolism in diseased and altered cells
- ▶ Metabolic regulation and control studies
- ▶ Basic nutrition research

Central Carbon Metabolism Panel	LLOQ*	
	Serum/Plasma	Cell Cultures
Lactic Acid	40.0 ug/mL	40.0 ug/mL
Pyruvic Acid	0.500 ug/mL	0.500 ug/mL
Citric Acid	5.00 ug/mL	5.00 ug/mL
2-Ketoglutaric Acid	0.500 ug/mL	0.500 ug/mL
Succinic Acid	0.100 ug/mL	0.100 ug/mL
Malic Acid	0.0500 ug/mL	0.0500 ug/mL
Fumaric Acid	0.0100 ug/mL	0.0100 ug/mL

\*Lower Limit of Quantitation (LLOQ) varies for each sample type

The panel is for non-GxP testing and is not for diagnostic use

## Analysis Method and Instrumentation

LC-MS/MS (Agilent 1290 UHPLC/Sciex QTrap 5500)

## Sample Type and Required Amounts

Sample Type	Sample Requirement
Plasma/Serum	100 - 150 µL
Cell cultures	300 - 500 µL
Tissue	50 - 100 mg
Others on request	

**Contact us to get started**  
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