



Amino Acid and Carnitine Detection kit

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

- An auxiliary diagnostic test for inherited metabolic diseases of newborns

Description

The kit can quantitatively detect 8 kinds of amino acids and 16 kinds of carnitine in dry blood spot (DBS) samples of newborns. The test results can assist clinicians to diagnose whether the newborn has inherited metabolic diseases.

Benefits



Multi-platform compatibility

- Suitable for a variety of LC-MS/MS systems from different manufacturers.



Multiple tested analytes

- One-stop measurement of 8 kinds of amino acids and 16 kinds of carnitine.



Larger diseases detection scope

- The capability of screening for at least 16 kinds of metabolic disorders in a single run.



96/960 tests/kit



Dry blood spot (DBS)



Shelf life: 12 months

Advantages

- Genetic testing can further confirm positive cases and provide a one-stop screening and diagnostic service.
- Advanced research and development and online expert consultation provide/establish comprehensive solutions.

Clinical Significance

- Expand the routine detection scope of inherited metabolic disorders.
- One-stop detection of multiple inherited metabolic disorders.
- Assist in clinical diagnosis of inherited metabolic disorders.

Assay Principle

The kit measures and evaluates amino acids and carnitine concentrations in the DBS filter paper samples of newborns. The main principle is to extract the analytes from the DBS samples with solutions containing specific markers and collect and process the data using the LC-MS/MS system. The concentration of each analyte is calculated by comparing the response degree of the internal standard with known concentration.

Quantitative analysis of amino acids, free carnitine and acylcarnitines and their relationship with each other provide analyte concentration profiles that may aid in the screening of newborns for various metabolic disorders.

Analytes measured by Amino acid and Carnitine Detection Kit
(Liquid Chromatography-Tandem Mass Spectrometry)

Analyte	Abbreviation	Analyte	Abbreviation	Analyte	Abbreviation
Amino acid		Carnitine			
Arginine	Arg	Freecarnitine	C0	Octylcarnitine	C8
Citrulline	Cit	Acetylcarnitine	C2	Decanoylcarnitine	C10
Leucine	Leu	Propionylcarnitine	C3	Decenoylcarnitine	C10:1
Methionine	Met	Butyrylcarnitine	C4	Lauroylcarnitine	C12
Phenylalanine	Phe	Isopentylcarnitine	C5	Myristoylcarnitine	C14
Tyrosine	Tyr	Glutaryl carnitine	C5DC	Tetradecenoylcarnitine	C14:1
Valine	Val	3-Hydroxyisoamyl carnitine	C5OH	Palmitoylcarnitine	C16
Ornithine	Orn	Hexylcarnitine	C6	Octadecylcarnitine	C18

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info@bgi.com



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The product is only used for in vitro diagnosis.

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