



Aromatic Amino Acid in Plasma/DBS HPLC Analysis Kit

Phenylketonuria, also called PKU, is a rare inherited disorder that causes an amino acid called phenylalanine to build up in the body. PKU is caused by a defect in the gene that helps create the enzyme needed to break down phenylalanine. Without the enzyme necessary to process phenylalanine, a dangerous buildup can develop when a person with PKU eats foods that contain protein or eats aspartame, an artificial sweetener. This can eventually lead to serious health problems. For the rest of their lives, people with PKU, need to follow a diet that limits phenylalanine, which is found mostly in foods that contain protein. Babies are screened for PKU soon after birth. Recognizing PKU right away can help prevent major health problems.

Highlights of the Analysis Kit



Simple sample preparation without SPE or evaporation



11.0 min. analysis time



Isocratic mobile phase gradient

Parameters

Phenylalanine, Tyrosine, Tryptophan

Sample Type

Plasma and Dried Blood Spot (DBS)

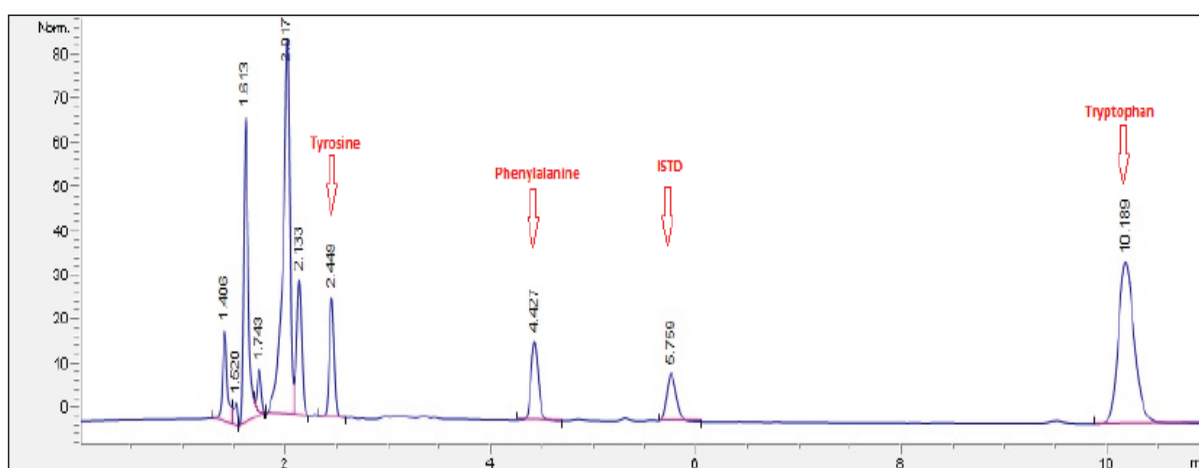
Sample Preparation For Plasma

1	Pipette 50 µL of plasma sample into a centrifuge tube
2	Add 300 µl of Reagent-1 and vortex for 15 sec.
3	Centrifuge at 10000-12000 rpm for 5 min.
4	Decant the clear supernatant into HPLC vial

Sample Preparation For DBS

1	Punch 3 mm of dried blood spot sample into a centrifuge tube
2	Add 200 µl of Reagent-1 and gently shake for 10 min.
3	Decant the clear supernatant into HPLC vial

Example Chromatogram



Example Chromatogram for Plasma Calibrator Level-2

Method Performance For Plasma

Analyte	LOQ (µg/L)	Accuracy (%)	Repeatability (%RSD)	Linearity (R ²)
Phenylalanine	0,3	96,2	3,2	0,993
Tyrosine	0,3	97,1	3,8	0,994
Tryptophan	0,6	93,2	4,9	0,989

Method Performance For DBS

Analyte	LOQ (µg/L)	Accuracy (%)	Repeatability (%RSD)	Linearity (R ²)
Phenylalanine	0,6	95,1	3,9	0,991
Tyrosine	0,6	96,8	4,1	0,990
Tryptophan	0,9	94,1	5	0,983



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