



Aromatic Amino Acids

Phenylalanine, Tyrosine and Tryptophan in Plasma

Phenylketonuria (PKU) is the most frequent inherited disorder of amino acid metabolism (incidence is 1:10,000-1:15,000) and was the first successfully treated inborn error of metabolism. Untreated PKU leads to severe brain damage with intellectual impairment, behavior abnormalities, seizures, and spasticity. Treatment includes the early introduction of a low phenylalanine diet.

Tyrosine is a nonessential amino acid that derives from dietary sources, the hydroxylation of phenylalanine, or protein breakdown. Primary (PKU) and secondary (defects of BH₄ metabolism) hyperphenylalaninemia can cause abnormally low levels of tyrosine. Measurement of the phenylalanine / tyrosine ratio is helpful in monitoring appropriate dietary intake.

This Aromatic Amino Acids HPLC Kit was developed for monitoring the effectiveness of dietary therapy in patients with hyperphenylalaninemia. The kit allows the quantitative measurement of phenylalanine, tyrosine and tryptophan levels in plasma samples during dietary therapy period. Components such as calibrator, reagents and mobile phase required for analysis are supplied with the kit.

Note: This Aromatic Amino Acids HPLC Kit is not intended for use in neonatal screening programmes and not for PKU diagnosis. The purpose is just to monitor diet of patients.

Accurate and Reliable HPLC Method
to Monitor Efficiency of Dietary Therapy in Metabolic Diseases

Performance Data

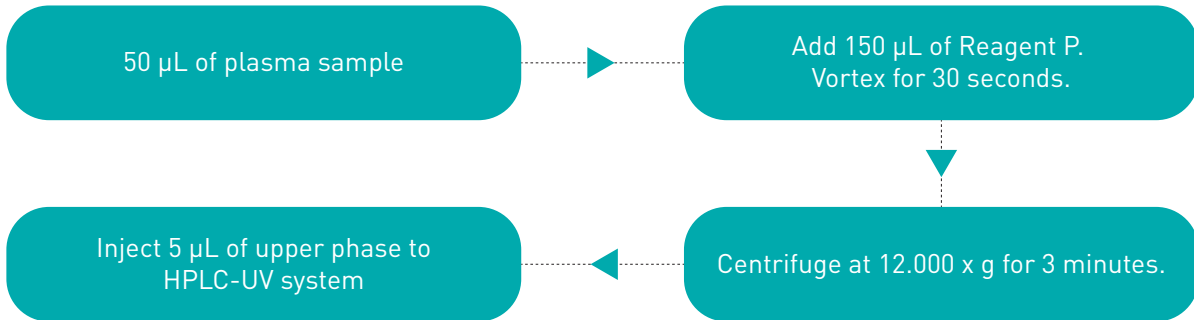
Linearity

Analyte	Linearity Range
Phenylalanine	0,2-50 mg/dL
Tyrosine	0,2-50 mg/dL
Tryptophan	0,2-50 mg/dL

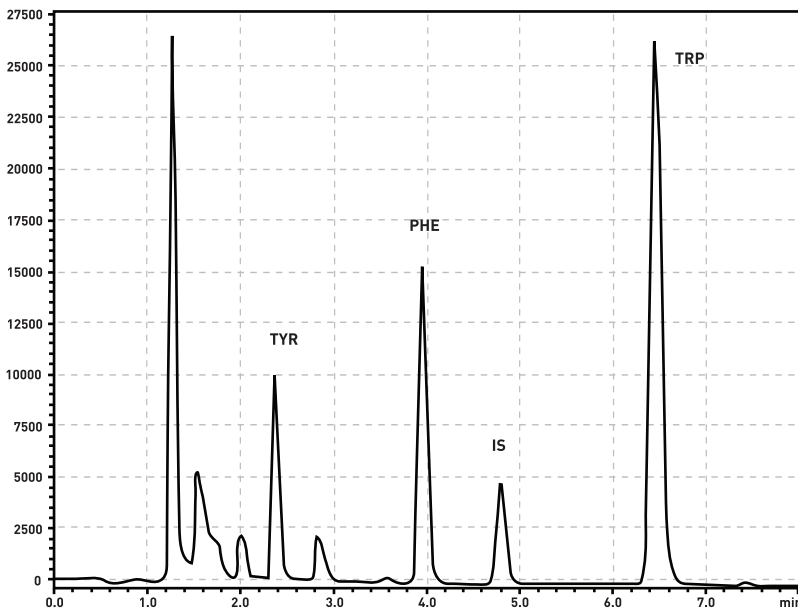
Reproducibility

Analyte	Intra-assay precision (%CV)	Inter-assay precision (%CV)
Phenylalanine	% 1.73	% 2.82
Tyrosine	% 1.77	% 2.76
Tryptophan	% 2.33	% 2.80

Sample Preparation



Sample Chromatogram



HPLC Parameters

- **Detection** - UV detector, 214 nm
- **Column Oven** - 40°C
- **Flow Rate** - 1,2 ml/min, isocratic
- **Injection Volume** - 5 µl
- **Analysis Time** - 8 Minutes

Ordering Information

Product Code	Product Name	Tests
BR140010	Aromatic Amino Acids - HPLC Kit	100 Tests
BR140012	Aromatic Amino Acids - HPLC Kit	500 Tests
BR140012C1	Aromatic Amino Acids - HPLC Kit Analytical Column	