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Total Homocysteine in Serum/Plasma LC-MS/MS Analysis Kit

Homocysteine is a non-essential sulfur containing amino acid closely linked to the essential amino acid methionine. Homocysteine is rapidly oxidized in plasma into homocystine and cysteine-homocysteine disulfide. Total plasma homocysteine is the sum of homocysteine and its oxidized forms. The determination of total homocysteine plays an indicator role in diagnosis and therapy of folate, vitamin B12 and vitamin B6 deficiencies. In addition, several observational studies have confirmed that increased total homocysteine is an independent predictor of cardiovascular risk.

Highlights of the Analysis Kit

- Reduction and precipitation without pre-column derivatization
- Total run time is 5 min.
- Safeguarded by its own internal standard
- Small volume of patient's sample is required
- Long life span of HPLC column

Parameters

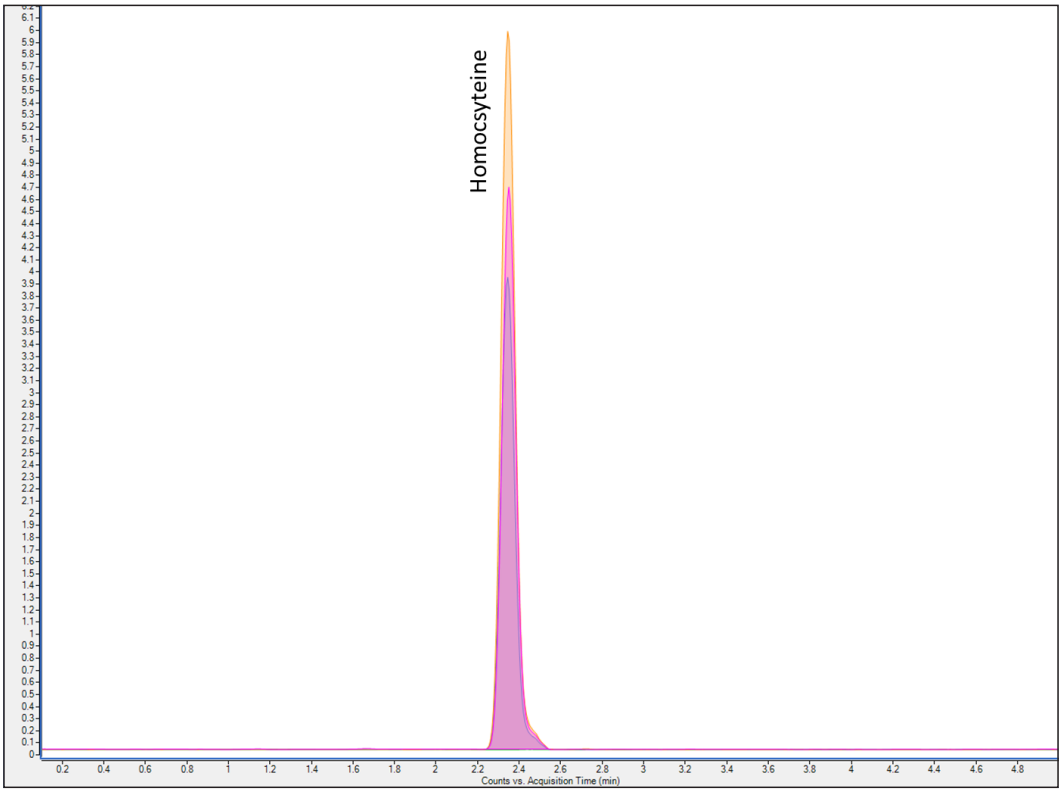
Homocysteine

Sample Type

Serum/Plasma

Sample Preparation

1	Pipette 50 µL of serum/plasma or quality control sample into a glass centrifuge tube and add 50 µL of internal standard
2	Vortex for 5 sec. and add 100 µL of reducing solution, again vortex for 15 sec. Then, incubate in a water bath at 60ºC for 15 min.
3	Add 650 µL Reagent-2 and vortex for 5 sec. then centrifuge at 3000 rpm for 5 min.
4	Decant the clear supernatant into HPLC vial prior to injection



Extracted ion chromatogram of total homocysteine

Method Performance

All validation results were obtained using Agilent 6465 TQ (Ultivo) systems

Analyte	LOQ (µmol/L)	Linearity (µmol/L)	Recovery (%)		Repeatability (%CV)	
			LLQC*	HLQC**	LLQC	HLQC
Homocysteine	0.08	6.11 – 49.9	102	103	0.57	0.42

*LLQC: Low-level quality control
** HLQC: High-level quality control

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