



## Total Homocysteine in DBS LC-MS/MS Analysis Kit

Homocysteine is a non-essential sulfur-containing amino acid closely linked to the essential amino acid methionine. In biological samples, homocysteine is rapidly oxidized to homocystine and cysteine–homocysteine disulfide. Total homocysteine represents the sum of homocysteine and its oxidized forms. The determination of total homocysteine from dried blood spot (DBS) samples plays an important role in the diagnosis and management of folate, vitamin B12, and vitamin B6 deficiencies. Elevated total homocysteine has also been identified as an independent predictor of cardiovascular risk.

### Highlights of the Analysis Kit

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Just a few pipetting steps for sample preparation; “extract and shoot.”



Quantitative analysis of homocysteine in 5 min. for DBS specimens



Safeguarded by its own stable labelled isotope as internal standard



Consuming small volume of patient’s sample. Suitable for microsampling devices



Long life span of HPLC column

## Parameters

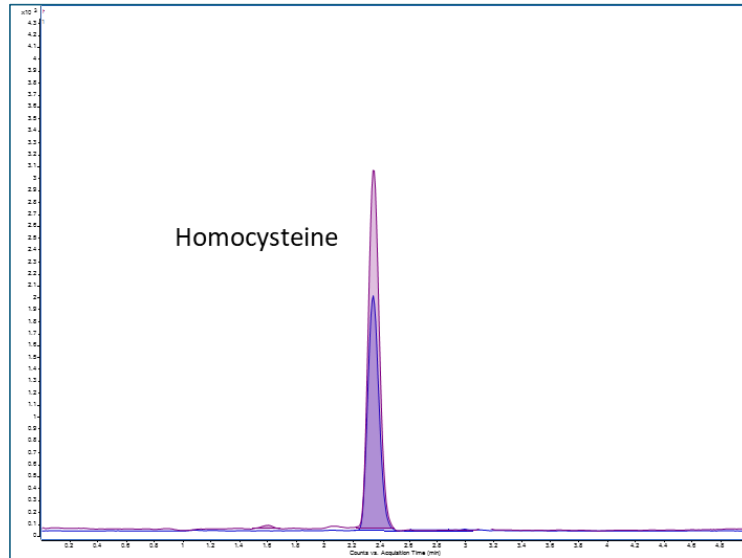
Homocysteine

## Sample Type

Dried Blood Spot (DBS)

## Sample Preparation

1	Punch 3 mm of blood spot into a conical microtube
2	Add 25 $\mu$ L of internal standard solution and 30 $\mu$ L of reagent-1 and shake for 10 min. at room temperature
3	Add 300 $\mu$ L of Reagent-1, vortex for 5 sec. then, centrifuge at 10000 rpm for 5 min.
4	Decant the clear supernatant into HPLC vial prior to injection



Extracted ion chromatogram of total homocysteine

## Method Performance

All results were obtained using Agilent 6470 TQ system

Analyte	LOQ ( $\mu$ mol/L)	Linearity ( $\mu$ mol/L)	Recovery (%)		Repeatability (%CV)	
			LLQC*	HLQC**	LLQC	HLQC
Homocysteine	0.739	3.8 - 31.62	94	86	1.98	0.89

\*LLQC: Low-level quality control

\*\* HLQC: High-level quality control


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