



## HOMOCYSTEINE

*Homocysteine is a sulphur-containing amino acid that is closely related to methionine and cysteine. Elevated levels of homocysteine are linked to a variety of clinical conditions, and it is also considered an independent risk factor for cardiovascular disease.*

*Homocysteine is an intermediate metabolite of methionine metabolism and is itself metabolised by two pathways, namely the trans-methylation and trans-sulphuration pathways. These processes rely on an adequate supply of certain key nutrients, including vitamin B12, Vitamin B6 and Folic acid.*

*High homocysteine levels can provide valuable information not only about a patient's risk to many chronic diseases, but also about their nutritional status relating to these critical nutrients.*

### Conditions associated with elevated levels of Homocysteine:

- Alcoholism
- Alzheimer's disease
- Cognitive decline
- Coronary artery disease
- Deep vein thrombosis
- Depression
- Diabetic retino/ nephropathy
- Intermittent claudication
- Multiple sclerosis
- Myocardial infarction
- Neural tube defects
- Non-insulin dependent Diabetes
- Osteoporosis
- Parkinson's disease
- Peripheral vascular disease
- Placental abruption
- Renal failure
- Retinal vascular occlusion
- Rheumatoid arthritis
- Schizophrenia
- Spontaneous abortion
- Stroke

### What causes elevated homocysteine levels?

- Homocysteine levels increase with age
- Lifestyle choices including high cigarette, alcohol or coffee intake
- Nutrient deficiencies including Vitamin B6, Vitamin B12 and Folic acid.
- Genetic factors can predispose some individuals to increased homocysteine levels
- Certain prescription drugs can elevate levels of homocysteine

### How does the test work?

By utilising a very sensitive and specific (ELISA) assay, circulating plasma/ serum homocysteine levels can be determined. In this assay, both bound and free homocysteine are measured to get the total plasma homocysteine concentration.

### Sample requirements

This is a highly sensitive test that involves a blood test that must be conducted at the laboratory. **For information on how to book, please contact the laboratory.**

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