

## Vitamin B12 (Cobalamin)

<b>Description</b>	<p>B12 is a term used for a group of compounds called cobalamins, most notable of which are methylcobalamin and adenosylcobalamin.</p> <p>The cobalamins are involved in numerous metabolic pathways including the metabolism of homocysteine and methylmalonic acid. They are also required for normal functioning of the nervous system and red blood cell production. As such B12 deficiency can lead to megaloblastic anaemia.</p> <p>Symptoms of B12 deficiency include symptoms of anaemia and neurological changes such as polyneuropathy, depression and dementia.</p>
<b>Indication</b>	Deficiency: due to malnutrition e.g. vegan diet, malabsorption or pernicious anaemia.
<b>Additional Info</b>	B12 is found in almost all animal products.
<b>Concurrent Tests</b>	Folate; in the differential diagnosis of megaloblastic anaemia. Anti-intrinsic factor antibodies; if pernicious anaemia is suspected.
<b>Dietary Requirements</b>	N/A
<b>Interpretation</b>	191 - 663 ng/L
<b>Collection Conditions</b>	Serum sample. Haemolysed samples are unsuitable for B12 measurement.
<b>Frequency of Testing</b>	<p>Repeat Vitamin B12 measurement is unnecessary in patients with Vitamin B12 deficiency that are on replacement. A full blood count and reticulocyte count should be performed:</p> <ul style="list-style-type: none"> <li>• After approximately 10 days of treatment to document the response.</li> <li>• Then after 8 weeks to confirm a normal blood count.</li> </ul> <p>On-going monitoring of people being treated with Vitamin B12 is generally considered unnecessary (unless a lack of compliance with treatment is suspected, or anaemia recurs).</p> <p>(CKS Guidelines: Anaemia – Vitamin B12 and Folate Deficiency; <a href="http://cks.nice.org.uk/anaemia-b12-and-folate-deficiency#!scenario">http://cks.nice.org.uk/anaemia-b12-and-folate-deficiency#!scenario</a>)</p>