

## High serum B12 level and PA/B12 Deficiency

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Here are some sources which state that elevated serum B12 levels are mostly due to elevated haptocorrin (binding-protein). Serum B12 tests cannot differentiate between this and actual B12:

1. [http://books.google.co.uk/books?id=rS41Iwpl-](http://books.google.co.uk/books?id=rS41Iwpl-hIC&pg=PA472&lpg=PA472&dq=woman+high+serum+B12++bacteria+haptocorrin+high&source=bl&ots=nNXW2NhdkG&sig=0LN7UL3yO86Si273AIGyWO56HtY&hl=en&sa=X&ei=SVbMUdz1Ku047AbJ2ID4DQ&ved=0CDAQ6AEwAjk#v=onepage&q)

[hIC&pg=PA472&lpg=PA472&dq=woman+high+serum+B12++bacteria+haptocorrin+high&source=bl&ots=nNXW2NhdkG&sig=0LN7UL3yO86Si273AIGyWO56HtY&hl=en&sa=X&ei=SVbMUdz1Ku047AbJ2ID4DQ&ved=0CDAQ6AEwAjk#v=onepage&q](http://books.google.co.uk/books?id=rS41Iwpl-hIC&pg=PA472&lpg=PA472&dq=woman+high+serum+B12++bacteria+haptocorrin+high&source=bl&ots=nNXW2NhdkG&sig=0LN7UL3yO86Si273AIGyWO56HtY&hl=en&sa=X&ei=SVbMUdz1Ku047AbJ2ID4DQ&ved=0CDAQ6AEwAjk#v=onepage&q)

"Hypochlorhydria in atrophic gastritis may result in enteral bacterial overgrowth and diversion of dietary vitamin B12 away from the host. Nonetheless, the ability to absorb crystalline vitamin B12 remains intact in older people with atrophic gastritis. Atrophic gastritis results in low acid-pepsin secretion by the gastric mucosa, which in turn results in a reduced release of free vitamin B12 from food proteins."

2. <http://qjmed.oxfordjournals.org/content/early/2013/02/27/qjmed.hct051.abstract>

"Abstract

Hypercobalaminemia (high serum vitamin B12 levels) is a frequent and underestimated anomaly. Clinically, it can be paradoxically accompanied by signs of deficiency, reflecting a functional deficiency linked to qualitative abnormalities, which are related to defects in tissue uptake and action of vitamin B12. The aetiological profile of high serum cobalamin predominantly encompasses severe disease entities for which early diagnosis is critical for prognosis. These entities are essentially comprised of solid neoplasms, haematological malignancies and liver and kidney diseases. This review reflects the potential importance of the vitamin B12 assay as an early diagnostic marker of these diseases. A codified approach is needed to determine the potential indications of a search for high serum cobalamin and the practical clinical strategy to adopt upon discovery of elevated cobalamin levels. While low serum cobalamin levels do not necessarily imply deficiency, an abnormally high serum cobalamin level forms a warning sign requiring exclusion of a number of serious underlying pathologies. Functional cobalamin deficiency can thus occur at any serum level."

3. [http://www.researchgate.net/publication/6969741\\_Disorders\\_of\\_cobalamin\\_\(vitamin\\_B12\)\\_metabolism\\_escaping\\_concepts\\_in\\_pathophysiology\\_diagnosis\\_and\\_treatment](http://www.researchgate.net/publication/6969741_Disorders_of_cobalamin_(vitamin_B12)_metabolism_escaping_concepts_in_pathophysiology_diagnosis_and_treatment)

"at this time, therapeutic trials with pharmacologic doses of cobalamin are suggested when findings consistent with cobalamin deficiency are present regardless of the results of diagnostic tests. While oral cobalamin immediate-release is adequate for many patients, its effectiveness in reversing neurologic abnormalities has yet to be established."

4. <http://www.ihaematology.com/general-haematology/megaloblastic-anaemia>

"High levels usually due to elevated haptocorrin (cobalamin-binding protein)"

5. SIBO - small intestinal bacterial overgrowth

"Patients with bacterial overgrowth can have high levels of B12 in the lumen of the small intestine, from nonabsorbed dietary sources and from local bacterial synthesis. Despite this, patients can still suffer from vitamin B12 deficiency because of the lack of absorption from the intestine."

<https://www.sciencedirect.com/topics/medicine-and-dentistry/bacterial-overgrowth#:~:text=Patients%20with%20bacterial%20overgrowth%20can,of%20absorption%20from%20the%20intestine.>