



High dose biotin intake may cause interference with laboratory test results

February 2019

Interference by endogenous and exogenous substances with pathology tests is not uncommon. These interferences include haemolysis, lipaemia, drugs, heterophile antibodies and biotin (Vitamin B7).

Biotin has always been a potential interferent in immunoassays that use biotin-streptavidin technology. Although these assays are not affected by low dose ingestion of biotin, taking high dose biotin prior to blood collection can cause falsely abnormal pathology test results.

Tests that may be affected are restricted to immunoassays and include Thyroid function tests, Troponin T, HCG, Hepatitis A, B, C Serology and HIV Serology. Common chemistry tests such as electrolytes, urea and creatinine (EUC), liver function test, iron studies and lipid studies are not affected.

The use of high dose biotin (300mg/day) is becoming increasingly common in the treatment of Multiple Sclerosis. As well, some patients are taking high dose biotin supplements (>5mg/day) in the belief that it is beneficial for hair and nail beauty. Therefore clinicians need to have an increased awareness of this issue.

All medical practitioners should be aware that high doses of biotin (>5mg/day) can interfere with a number of laboratory assays causing spuriously abnormal results.

We have performed extensive investigations on the effect of high dose biotin on different tests. The interference varies depending on dose and time of ingestion, ranging from subtle abnormalities to significant errors. The results of tests can either be increased or decreased depending on the test design. As such false positives or false negatives may occur.

To avoid spurious results with patients on high dose biotin:

- Check if your patient is on Biotin prior to sending for a blood test
- Put "BIOTIN THERAPY" in the clinical notes section on the request form and the dosage (if known).

Please note that biotin is "washed out" of the system in 8-72 hours, depending on the dose and time of ingestion. Biotin will not interfere with testing after that time.

If you need urgent tests on a patient who is on high dose biotin or require more information, please call our Chemical Pathologists or Microbiologists on 9287 7700.

Our Chemical Pathologists



Dr Ken Sikaris



Dr Christina Trambas

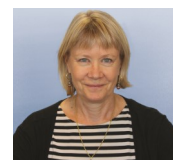
Our Microbiologists



Dr Lyn Waring



Dr Chandrika Perera



Dr Caroline Reed



Dr Jasmine Teng