

High Dose Biotin May Interfere with Lab Tests

Date: January 14, 2019

Patients on high dose biotin may see their immunoassay results affected by biotin. Biotin interference can give falsely high or falsely low results depending on the design of the particular immunoassay. The tests most sensitive to high biotin blood levels are T3, fT4 (falsely elevated) and TSH, High Sensitivity Troponin (falsely depressed) assays.

The recommended daily dietary intake of biotin is 30 mcg/d. Doses of biotin typically contained in daily multivitamins (30-60 mcg) pose no risk to biotin interference. Taking biotin supplements in very large doses (e.g., 10-15 mg/d) for hair, skin, and nail benefits, or even higher doses recommended by physicians for conditions such as multiple sclerosis, however, increase the risk of biotin interference.

Roche Diagnostics has recommended (based on published pharmacokinetics data¹) that blood collection for their assays should be delayed if a patient is on a high dose biotin:

- 5-10 mg/d of biotin, wait at least 8h after last dose before blood collection
- > 20 mg/d of biotin, a longer wait period (up to 73h) before blood collection
- Wait periods may be longer in patients with impaired renal function where biotin elimination half-life may be longer

For those tests that are affected by biotin interference, the effect of biotin on the assays (falsely elevated or depresses) is listed in the Test Menu: <https://www.testmenu.com/rochester>

Patients giving suspiciously abnormal results, possibly due to biotin interference, should be retested in a referral laboratory using alternate methodology.

From: Tai C. Kwong, PhD
Director, Clinical Chemistry, UR Medicine Labs
University of Rochester Medical Center
Phone: (585) 275-5654
E-mail: Tai_Kwong@urmc.rochester.edu

1 (Int J Pharmacokinetics 2017;2:247-256)