METHODIST HOSPITAL
PATHOLOGY CENTER

8303 Dodge Street
Omaha, NE 68114

(402)354-4541
FAX (402) 354-4535

TECHNICAL BULLETIN

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POTENTIAL LABORATORY RESULT INTERFERENCE DUE TO PATIENT BIOTIN USE

Over the last few years, use of biotin as a supplement by the general public has been observed with an increasing frequency. Nationally this has led to an increase in the number of reports of analytical interference in biotin based laboratory tests. A number of assays performed at the Methodist Pathology Center laboratories use biotinylated antibodies and/or biotin based detection and thus the results may be affected.

Assays performed at the Methodist Pathology Center laboratories using biotin are:

AFP, BHCG, Ca15-3, Ca19-9, Ca125, CEA, CKMB, Cortisol, Estradiol, Ferritin, Folate, FSH, FT4, FT3, LH, Myoglobin, ProBNP, PCT, Progesterone, Prolactin, PSA, PTH, Testosterone, TSH, Troponin, Vitamin B12, and HBsAg (dialysis patients only). The analytical result of these tests may be falsely elevated or falsely decreased depending on the specific test, the patient's biotin intake, the timing of the last biotin dose and the patient's renal function.

Biotin as one ingredient within a daily multivitamin (30-40 mcg) was shown to have no effect on the biotin based assays.

In a study performed by the manufacturer of the instruments used in Methodist Pathology Center laboratories, subjects taking 5 mg of biotin per day were below tolerance threshold of 30 ng/mL within 3.5 hours, and subjects taking 10 mg of biotin per day were below the same tolerance threshold within 8 hours. The study recommendation for patients taking 20 mg of biotin per day was to discontinue biotin intake for longer than 8 hours prior to testing.

For more details please visit http://biotinfacts.roche.com

The risk of an analytical interference by biotin supplements is a serious problem and clinicians must be aware of this possibility, especially if results of testing do not correspond to the clinical picture. Focused medication/supplement intake history may help to resolve this issue.

Please direct any questions to Dr. George Bedrnicek at (402) 955-5528 or Dr. Deborah Perry at (402) 354-4559.