

Red blood cell (RBC) elements tests are used to assess the status of essential elements with important intracellular functions, such as magnesium, copper and zinc. Deficiencies or excesses of these essential elements affect numerous metabolic processes. RBC element analysis is also useful for the assessment of ongoing or recent exposure to specific toxic metals, such as arsenic, cadmium, lead, methylmercury and thallium, that accumulate preferentially in erythrocytes.

Detailed Information

Red blood cell (RBC) analysis is an invaluable method for assessing insufficiency or excess of elements that have important functions within cells or on blood cell membranes. An important feature of this analysis is that the cells are not washed, because this would result in partial loss of some important elements, such as calcium, that bind to the plasma membrane.

RBC element levels are very useful for:

- Anti-inflammatory processes (selenium, copper, zinc)
- Anemia (copper, iron)
- Immunological function (zinc, copper, magnesium)
- Glucose tolerance (chromium, manganese and possibly vanadium)

Disorders specifically associated with zinc deficiency are also addressed by this analysis. These disorders include loss of visual acuity, dysgeusia, dermatitis and poor wound healing, alopecia, amino acid malabsorption, sexual impotence, decreased production of testosterone, depressed immune function and growth retardation.

Accurate assessment of essential element status is highly recommended for the determination of appropriate supplementation. The absorption, transport and metabolism of essential elements is highly integrated and regulated. Inappropriate supplementation or dietary imbalance of elements can have significant adverse health effects.

For example, excess intake of zinc or molybdenum can result in copper deficiency and, although essential, excess retention of manganese can have serious neurotoxic effects. RBC element analysis is also useful for the assessment of ongoing or very recent exposure to specific toxic elements that accumulate preferentially in erythrocytes. These toxic elements include arsenic, cadmium, lead, methylmercury and thallium.

It is important to keep in mind that elevated levels of the toxic elements in these cells reflect only recent or ongoing exposure and do not provide information about the net retention of the metals in the body. RBC element analysis should be performed prior to and intermittently throughout the course of detoxification or chelation therapy. Monitoring essential element status is necessary to identify needs for and effectiveness of supplementation.

Replacement and maintenance of adequate levels of essential nutrients can markedly reduce the apparent adverse "side effects" associated with the use of detoxification agents and the general effects of mobilization of toxic elements. It is important to note that some diseases are associated with abnormal levels of blood cell elements that could be misleading with respect to nutritional status. For example, blood cell copper can be temporarily elevated during inflammatory response while liver levels are not.

Analytes

- Arsenic; RBC
- Boron; RBC
- Cadmium; RBC
- Calcium; RBC
- Cesium; RBC
- Chromium; RBC
- Copper; RBC
- Iron; RBC
- Lead; RBC
- Magnesium; RBC
- Manganese; RBC
- Mercury; RBC
- Molybdenum; RBC
- Phosphorus; RBC
- Potassium; RBC
- Selenium; RBC
- Thallium; RBC
- Zinc; RBC

Order Info

Test Type: Kit-Based, Blood

This test requires the use of a test kit. Please order your test kit(s) by clicking on the Order button.

Test Preparation and Reminders

Please make sure ALL information is entered onto the test requisition form included in the kit and all required clinician and patient signatures are completed (missing information may cause a delay in testing and/or interpretation).

- Be sure to follow the specimen collection instructions.
- If the use of cold pack is required, freeze bag containing cold pack for minimum of 4-6 hours before shipping.
- Provide all required information including signature on requisition form. (For non-licensed clinicians, signature is not required.)
- Make sure collection containers are securely closed and placed in the appropriate bag/box.
- Check whether the box has prepaid FedEx, UPS or US Mail postage.
- If you have any questions, please call Evexia Client Services at 888-852-2723.

Lab Order Fee: Evexia Diagnostics charges \$15 for each order placed by non-licensed practitioners.

Restrictions: (1) Patients must be 6 years old or older for test(s) that require any blood draws. Patients under the age of 18 require the parental/guardian consent form to be completed electronically. (2) We do not support lab ordering for patients in NY, NJ, and RI.

Sample Report