



**EMBRIA**<sup>®</sup>  
Health Sciences

## SELENIUM Q & A

### **What is selenium?**

Selenium is an essential trace mineral that is found naturally in soil. The human body is dependent on selenium, yet cannot produce it on its own.

### **Where does selenium come from and can we get enough from our diet?**

Foods that contain selenium include meat, seafood, dairy foods, whole grains, nuts (particularly Brazil nuts), red Swiss chard, turnips, garlic and orange juice. Since selenium is unevenly distributed in the earth's crust, the amount of selenium in the soil varies around the globe, which makes our reliance on food sources difficult if not impossible to measure.

### **What health benefits are associated with selenium?**

Selenium is an important antioxidant that can protect cells against damage from free radicals. Additionally, selenium has been found necessary for several important biological processes, including immune response and thyroid function. In 2003, the Food Drug Administration (FDA) released limited and inconclusive evidence that connects selenium with the possible risk-reduction of certain cancers, such as lung, colorectal, prostate and skin.

### **What is the recommended daily intake?**

The U.S. Recommended Daily Allowance for selenium is 55 micrograms per day, with daily intake to not exceed 400 micrograms from all sources. However, the *Journal of American College Nutrition* reports that 55 micrograms is less than one half of the amount considered optimal to obtain all the benefits of selenium.

### **What types of dietary selenium supplements are there?**

Selenium supplementation can ensure that individuals are receiving at least the minimum recommended daily allowance. The two general types of selenium supplements available to consumers are organic and inorganic forms. These terms have a very specific chemical meaning and have nothing to do with “organically-grown” foods. In chemistry, organic means a substance's chemical structure includes carbon. Inorganic chemicals have no carbon atoms.

### **Which is best – organic or inorganic selenium?**

Organic forms of selenium, such as selenomethionine, are selenium bound to methionine, an essential amino acid. The selenomethionine form of selenium rapidly metabolizes within the body to yield high bioavailability and retention. The inorganic forms of selenium, selenite and selenate, are essentially selenium atoms bound to oxygen. Some research suggests that these forms are difficult for the body to absorb.