Zinc – The Metal of Life

Lean red meat (including lean beef) is recognized as one of the richest natural sources of zinc. Zinc is found in organs, tissues, bones, fluids and cells. It is essential for many physiological functions and plays a significant role in a wide range of enzyme systems. Natural foods having high protein content are richest in zinc; thus, foods of animal origin are the major sources of zinc in the human diet. It has been demonstrated that vegetarians whose protein intake is mostly from pulses (beans, lentils and peas), have a higher incidence of zinc deficiency.

An extensive review of the many roles and importance of zinc has been published in Comprehensive Reviews in Food Science and Food Safety. Citing almost 300 references, the review builds a strong case for the label – “The Metal of Life”.

Of particular note are discussions of zinc’s effect on the brain, cardiovascular system, liver endocrine system, and fatty acid metabolism. In addition, zinc’s beneficial role throughout pregnancy and infancy and in diabetes, cell injury and inflammation are highlighted. Optimal zinc levels support the immune function. Plus, the potentially important role of zinc, in some perhaps less studied areas, such as pneumonia, cancer, obesity, diarrhea, eating disorders, antimicrobial effects, vision, gene expression and many other “life” systems, are noted.

Zinc, a versatile metal ion, is not only a vital element in numerous physiological processes but also as a drug component for the prevention and management of many diseases. Understanding of its importance continues to grow. However, despite the growing recognition of the diverse benefits of zinc, nearly half the world’s population is at risk for inadequate zinc intake. This would suggest that public health and nutrition programs are urgently needed to control zinc deficiency. Better and more generally accepted biomarkers of zinc status are needed. Meanwhile, zinc continues to be extensively investigated for utilization in a wide range of dietary, therapeutic and other health-related targets with promising outcomes.

Without question, the role of this extremely important metal ion, zinc, found naturally in high-protein animal-source foods, such as lean beef, will be an essential research area in the future. Based on documented benefits to-date, “The Metal of Life” is a well justified tag.


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