## **Zinpro: Challenging Trace Mineral Dogma**

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## Abstract

## Zinc: Immune secrets revealed

Zinc is emerging as a giant among trace minerals with specific regard to immune function. Zinc has been linked as an essential co-factor in over 400 enzyme systems throughout the mammalian body; many of these are key to fighting viral and bacterial pathogenic infection. The immune system can be thought of like a medieval castle: the moat and curtain wall are analogous to the physical barriers to penetration such as the skin, epithelium, and muco-cilliary apparatus; the archers atop the curtain wall are the Th1 lymphocytes and the downstream cytokines they signal for the destruction of invading virus; the central keep of the castle is analogous to the antibody response to the invading pathogens. The central keep is vital to a sustained defense; however, if the invaders have made it to the keep, a great deal of damage has already been done to the castle and its defenders. One key effective immunity is to maximize "the archers on the wall"---the Th1 lymphocytes. Getting more zinc into the cells of the tissues important to the immune system will dramatically increase the ability of the animal to defend itself in the immediate term. The Zinpro® trace mineral-amino acid complex has been shown, in all livestock species, to enhance immune function and improve animal performance.