

THE IMMUNE SYSTEM

is a network of cells, tissues and organs that defends the body against infectious organisms such as viruses, fungi and bacteria.

INNATE

Physical Barriers | Natural Killer Cells | Macrophages

ACQUIRED

Cell-Mediated T & B Cells

Humoral Antibody-Mediated

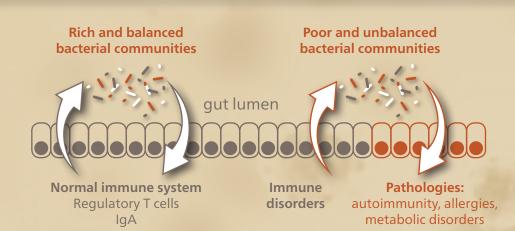
How does nutrition affect the immune system?

NUCLEOTIDES have been shown to increase immunoglobulin concentration. (Navarro et al., 1996)

ESSENTIAL FATTY ACIDS are precursors for important signaling molecules called eicosanoids, which the immune system needs to respond to threatening agents.

VITAMIN DEFICIENCIES in vitamins like A, B, folic acid and minerals results in lower immunocompetence.

PROBIOTICS



Nearly 80% of the immune system resides in the digestive tract.

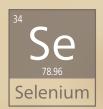
(Panda, S., Guarner, F. and Manichanh, C., 2014)

This makes maintaining a healthy digestive system of primary importance.

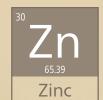


Probiotics help to reinforce the barrier function of the intestinal lining, lowering the chance of bacteria in the intestines entering the bloodstream.

MINERALS



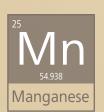
Selenium is involved in several cellular processes related to innate and adaptive immune responses.



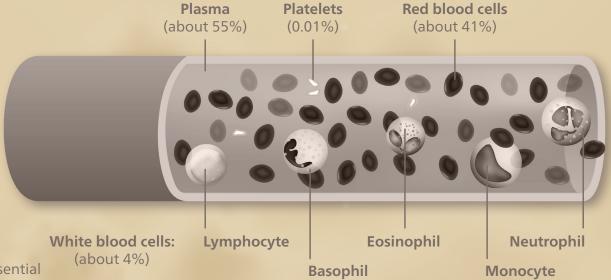
Zinc increases white blood cells, which fight infection.

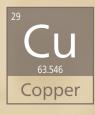


Iron plays a pivotal role in human immune function by promoting lymphocyte activation and proliferation.



Manganese has been shown to enhance natural killer cell and macrophage activity.





Copper is the essential element in two enzymes important in immune competence, copper/zinc-superoxide dismutase and ceruloplasmin. (Prohaska, 1990)



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