

MULTIMIN

Multimin Pharmaceuticals PTY LTD



SELENO ZINC PLUS

POWERFUL IMMUNE BOOSTING COMBINATION

- ✓ Cost effective 5-in-1 daily dose
- ✓ Liquid formulation for optimal absorption
- ✓ High quality and quantity trace minerals to have a significant impact
- ✓ Safe and well tolerated
- ✓ Convenient for those who have difficulty swallowing tablets
- ✓ A single $\pm$ 1ml daily dose, mixed with 50 ml water, is recommended to optimize your trace mineral status

SELENO ZINC PLUS contains 150 micrograms selenium, 40 milligrams zinc, 5 milligrams manganese, 2,5 milligrams copper and 100 micrograms chromium per ml.



5
ESSENTIAL TRACE
MINERALS

ENHANCE YOUR IMMUNITY AGAINST VIRAL & BACTERIAL INFECTIONS WITH:

SELENIUM



- Selenite obstructs the entry of viruses into healthy cells and inhibits their infectivity.^{1,2}
- Reverses age-related decline in immune response in the elderly.^{3,4}
- Essential for the activity of virtually all facets/aspects of the immune system.⁵

ZINC



- Crucial for the appropriate development and function of the whole immune system including innate and adaptive immunity.⁶
- Anti-viral, anti-bacterial and anti-fungal properties.⁷
- Reduces symptom severity, reduces frequency and duration of the common cold.^{8,9,10,11}

MANGANESE



- Involved in the improvement of immune function through its role in the anti-oxidant capacity of superoxide dismutase (SOD).^{12,13}

COPPER



- Maintains the cells of the immune system, including white blood cells, anti-bodies, cytokines, B lymphocytes and T lymphocytes to keep the body healthy.¹⁴

CHROMIUM



- Beneficial for individuals undergoing physical or metabolic stress.^{15,16,17,18}





OPTIMIZE YOUR HEALTH

MULTIMIN
Multimin Pharmaceuticals PTY LTD



CANCER

SELENIUM

Reduces the risk of certain cancers, notably prostate cancer, stops metastasis and is involved in treatment. ^{19, 20, 21}

ZINC

Prevents certain cancers, especially prostate cancer. ^{22, 23}



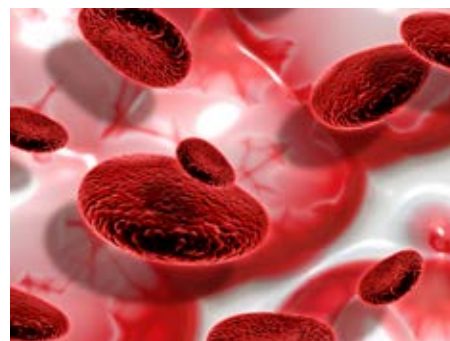
REPRODUCTION

SELENIUM

Required for sperm mobility and plays a role in healthy pregnancy outcomes. ^{24, 25, 26}

ZINC

Vital for male spermatogenesis, male and female fertility, healthy female reproduction and reduced pregnancy complications. ^{27, 28, 29, 7}



BLOOD SUGAR

CHROMIUM

Active component of the glucose tolerance factor (GTF) and improves insulin sensitivity and glucose metabolism. ^{30, 31}

MANGANESE

Essential for blood sugar regulation and insulin sensitivity. ¹²



FREE RADICAL DEFENCE

SELENIUM

Essential factor in the production of a crucial anti-oxidant, namely glutathione peroxidase (GPx). ^{3, 32}

MANGANESE

Reduces inflammation and oxidative stress. ^{33, 34}

COPPER

Essential for iron metabolism and free radical defence. ³⁵



WOUND HEALING

SELENIUM

Plays an important role in wound healing through its anti-oxidant properties. ^{36, 37}

ZINC

Plays a major role in every phase of the wound healing process. ^{38, 39, 40}



ORGAN HEALTH

SELENIUM

Critical in overall thyroid function and reduces disease risk. ^{41, 42}

ZINC

Optimal liver function and protection during liver disease. ^{43, 29}

MANGANESE

Has a significant bone protective effect to maintain healthy bones. ^{44, 45, 46}

Essential for thyroid health and improves brain function by protecting against free radicals (ROS). ^{47, 48}

COPPER

Essential for connective tissue biosynthesis and synthesis of melanin. ⁴⁹



5

ESSENTIAL TRACE
MINERALS





REFERENCES



1. KIELISZEK, M. & LIPINSKI, B. (2020). Selenium supplementation in the prevention of coronavirus infections (COVID-19). (Medical Hypotheses (143:109878). Institute of Food Sciences, Department of Food Biotechnology and Microbiology, Warsaw University of Life Sciences.
2. LIPINSKI, B. (2014). Can Selenite be an ultimate inhibitor of Ebola and other viral infections? *British Journal of Medicine & Medical Research* 6(3):319-324.
3. RAYMAN, MP. (2002). The argument for increasing selenium intake. *Proceedings of the Nutrition Society*, 61:203–215.
4. PERETZ, A; NERVE, J; DESMEDT, J; DUCHATEAU, J; DRAMAIX, M. & FAMAIEY, J.P. (1991). Lymphocyte response is enhanced by supplementation of elderly subjects with selenium-enriched yeast. *American Journal of Clinical Nutrition*, 53:1323-1328.
5. ARTHUR, J.R; RODERICK, C; MCKENZIE, C. & BECKETT, GJ. (2003). Immunity enhanced by trace minerals. *American Society for Nutritional Sciences*, 133:1457S-1459S.
6. WESSELS, I; MAYWALD, M. & RINK, L. (2017). Zinc as the gatekeeper of immune function. *Nutrients*, 9(1286):1-44.
7. TUORMAA, T.E. (1995). Adverse effects of zinc deficiency: A review from the literature. *Journal of Orthomolecular Medicine*, 10(3&4):149-164.
8. HICKNER, J. (2011). Zinc for the common cold – not if but when. *Journal of Family Practise*, 60(11).
9. FISCHER WALKER, C; BLACK, R.E. (2004). Zinc and the risk for infections disease. *Annual Review for Nutrition*, 24:255-275.
10. WESSELS, I; ROLLES, B. & RINK, L. (2020). The potential impact of zinc supplementation on COVID-19 pathogenesis. *Frontiers in Immunology*, 11(1712).
11. HEMILA, H. (2011). Zinc lozenges may shorten the duration of colds: A systematic review. *The Open Respiratory Medicine Journal*, 5:51-58.
12. LI, L. & YANG, X. (2018). The essential element manganese, oxidative stress, and metabolic diseases: Links and interactions. *Oxidative Medicine and Cellular Longevity*, 2018(7580707):1-11.
13. HOLLEY, A.K; VAN BAKTHAVATCHALU, V; VELEZ-ROMAN, J.M. & ST. CLAIR, D.K. (2011). Manganese superoxide dismutase: Guardian of the powerhouse. *International Journal of Molecular Sciences*, 12:7114-7162.
14. MAGGINI, S; PIERRE, A. & CALDER, P.C. (2018). Immune function and micronutrient requirements change over the life course. *Nutrients*, 10(10); 1531.
15. MERTZ, W. (1992). Chromium in human nutrition: A Review. *American Institute of Nutrition*, 123:626-633.
16. ANDERSON, R.A. (1994). Stress effects on chromium nutrition of humans and farm animals. *Vitamin and Mineral Laboratory, Beltsville Human Nutrition Research Centre, U.S. Department of Agriculture, ARS, Beltsville, Maryland, USA*.
17. LUKASKI, H.C; BOLONCHUK, W.W; SIDERS, W.A. & MILNE D.B. (1996). Chromium supplementation and resistance training: effects on body composition, strength, and trace element status of men. *American Society for Clinical Nutrition*, 63:954-965.
18. PECHOVA, A. & PAVLATA, L. (2007). Chromium as an essential nutrient: A Review. *Verinarni Medicina*, 52(1):1-18.
19. RAYMAN, M.P. (2008). Review article: Food chain selenium and human health: emphasis on intake. *British Journal of Nutrition*, 100:254-268.
20. RAYMAN, M.P. (2005). Selenium in cancer prevention: a review of the evidence and mechanism of action. *Proceedings of the Nutrition Society*, 64:527-542.
21. KIELISZEK, M; LIPINSKI, B. & BLAZEJAK, S. (2017). Review: Application of sodium selenite in the prevention of cancers. *Cells*, 6(39).
22. LI, D; STOVALL, D.B; WANG, W. & SUI, G. (2020). Review: Advances of zinc signalling studies in prostate cancer. *International Journal of Molecular Sciences*, 21(667):1-23.
23. POOI-FONG, W. & SAZALY, A. (2014). Zinc supplementation and prostate cancer. (Program of Research In Priority Area (IRPA) Grant No. 06-02-03-1025, VotF-382/2005C and VotF-0173/2003B). University of Malaya and Ministry of Science.
24. RAYMAN, M.P. (2000). Review: The importance of selenium to human health. *Lancet*, 356:233-241.
25. MARIATH, A.B; BERGAMASCHI, D.P; RONDO, P.H.C; D'A TANAKA, A.C; DE FRAGAS HINNING, P; ABBADE, J.F. & DINIZ, S.G. (2011). Review article: The possible role of selenium status in adverse pregnancy outcomes. *British Journal of Nutrition*, 105:1418-1428.





REFERENCES



26. GRIEGER, J.A; GRZESKOWIAK, L.E; WILSON, R.L; BIANCO-MIOTTO, T; LEEMAQZ, S.Y; JANKOVIC-KARASOULOS, T; PERKINS, A.V; NORMAN, R.J; DEKKER, G.A. & ROBERTS, C.T. (2019). Maternal selenium, copper and zinc concentrations in early pregnancy, and the association with fertility. *Nutrients*, 11:1609.
27. FALLAH, A; MOHAMMAD-HASANI, A. & COLAGAR, A.H. (2018). Zinc is an essential element for male fertility: A review of Zn roles in men's health, germination, sperm quality, and fertilization. *Journal of Reproduction and Infertility*, 19(2):69-81.
28. MURARKA, S; MISHRA, V; JOSHI, P. & SINIL, K. (2015). Role of zinc in reproductive biology – An overview. *Journal of Reproductive Medicine & Infertility*, 2(2):1009.
29. KAUR, K; GUPTA, R; SARAF, S.A. & SARAF, S.K. (2014). Zinc: The metal of life. *Comprehensive Reviews in Food Science and Food Safety*, 13(2014).
30. CHATTOPADHYAY, D. & EDDOUKS, M. (2012). Cellular nutrition and nutritional medicine in diabetes and related complications: An overview. *Phytotherapy in the Management of Diabetes and Hypertension*, 1:3-59.
31. CEFALU, W.T. & HU, F.B. (2004). Review article: Role of chromium in human health and diabetes. *Diabetes Care*, 27(11):2741-2750.
32. ESPINOZA, S.E; GUO, H; FEDARKO, N; DEZERN, A; FRIED, L.P; XUE, QIAN-LI; LENG, S; BEAMER, B. & WALSTON, J.D. (2008). Glutathione Peroxidase Enzyme Activity in Aging. *Journal of Gerontology*, 63A (5):505-509.
33. YOUNUS, H. (2018). Review: Therapeutic potentials of superoxide dismutase. *International Journal of Health Sciences*, 12(3):88-93.
34. LI, C. & ZHOU, HAI-MENG. (2011). Review article: The role of manganese superoxide dismutase in inflammation and disease. *Enzyme Research*, 2011: article ID 387176.
35. BAKER, Z.N; COBINE, P.A. & LEARY, S.C. (2017). The mitochondrion: a central architect of copper homeostasis. *Metallomics*, 9(11):1501-1512.
36. HARIHARAN, S. & DHARMARAJ, S. (2020). Review: Selenium and selenoproteins: it's role in regulation of inflammation. *Inflammopharmacology*, [https://doi.org/10.1007/s10787-020-00690-x].
37. CHOW, O. & BARBUL, A. (2014). Critical reviews: Immuno-nutrition: Role in wound healing and tissue regeneration. *Advances in Wound Care*, 3(1):47-53.
38. LIN, PEI-HUI; SERMERSHEIM, M; LI, H, LEE, P.H.U; STEINBERG, S.M. & MA, J. (2018). Zinc in wound healing modulation. *Nutrients*, 10(16).
39. MARRIAGE-ARCARI, R. (2016). The role of zinc in wound healing. *Wound Care Canada*, 14(3).
40. ADJEPONG, D; JAHANGIR, S. & MALIK, B. (2020). The Effect of Zinc on Post-neurosurgical Wound Healing: A Review. *Cureus* 12(1): e6770. DOI 10.7759/cureus.6770.
41. KOHRLE, J. & GARTNER, R. (2009). Selenium and thyroid. *Best Practise & Research Clinical Endocrinology & Metabolism*, 23(2009):815-827.
42. VENTURA, M; MELO, M. & CARRILHO, F. (2017). Review article: Selenium and thyroid disease: from pathophysiology to treatment. *International Journal of Endocrinology*, 2017: article ID 1297658.
43. MOHAMMAD, M.K; ZHOU, Z; CAVE, M; BARVE, A. & MCCLAIN, G.J. (2012). Zinc and liver disease. *Nutrition in Clinical Practise*, 27(1):8-20.
44. ZOFKOVA, I; DAVIS, M. & BLAHOS, J. (2017). Review: Trace elements have beneficial, as well as detrimental effects on bone homeostasis. *Physiological research*, 66:391-402.
45. STRAUSE, L; SALTMAN, P; SMITH, K.T; BRACKER, M. & ANDON, M.B. (1994). Spinal bone loss in postmenopausal women supplemented with calcium and trace minerals. *American Institute of Nutrition*, 124:1060-1064.
46. DELLA PEPA, G. & BRANDI, M.L. (2016). Mini review: Microelements for bone boost: the last but not least. *Clinical Cases in Mineral and Bone Metabolism*, 13(3):181-185.
47. HORNING, K.J; CAITO, S.W; TIPPS, K.G; BOWMAN, A.B. & ASCHNER, M. (2015). Manganese is essential for neuronal health. *Annual review of Nutrition*, 35:71-108, doi:10.1146/annurev-nutr-071714-034419.
48. SOLDIN, O.P. & ASCHNER, M. (2007). Effects of manganese on thyroid hormone homeostasis. *Neurotoxicology*, 28(5):951-956.
49. IBRAHIM, N.L. (2013). Study of Serum Copper and Iron in Children with Chronic Liver Diseases. *Anatomy and Physiology*, 4:130. doi:10.4172/2161-0940.1000130.

