ZINC Gluconate

ZINC BIOLOGICAL INTEREST

Zinc gluconate is commonly used in dietary supplements, cosmetics and pharmaceutics. Zinc plays a crucial role in more than 300 enzymes in the human body. Zinc promotes healthy skin, hair and nails, supports normal taste and vision, and plays a role in protein synthesis like collagen in bone tissue. It also supports cell growth and DNA formation. It exerts antioxidant activity and can support a healthy immune system.

ZINC EFFICIENCY

Zinc inhibits 5α-reductase. This enzyme catalyzes the conversion of androgens into DHT (dihydrotestosterone) which bind to the receptors located on the sebaceous glands. This binding results in the production of sebum. Zinc, by inhibiting this enzyme, inhibits hyperseborrhoea. In vivo tests have confirmed this action of zinc.

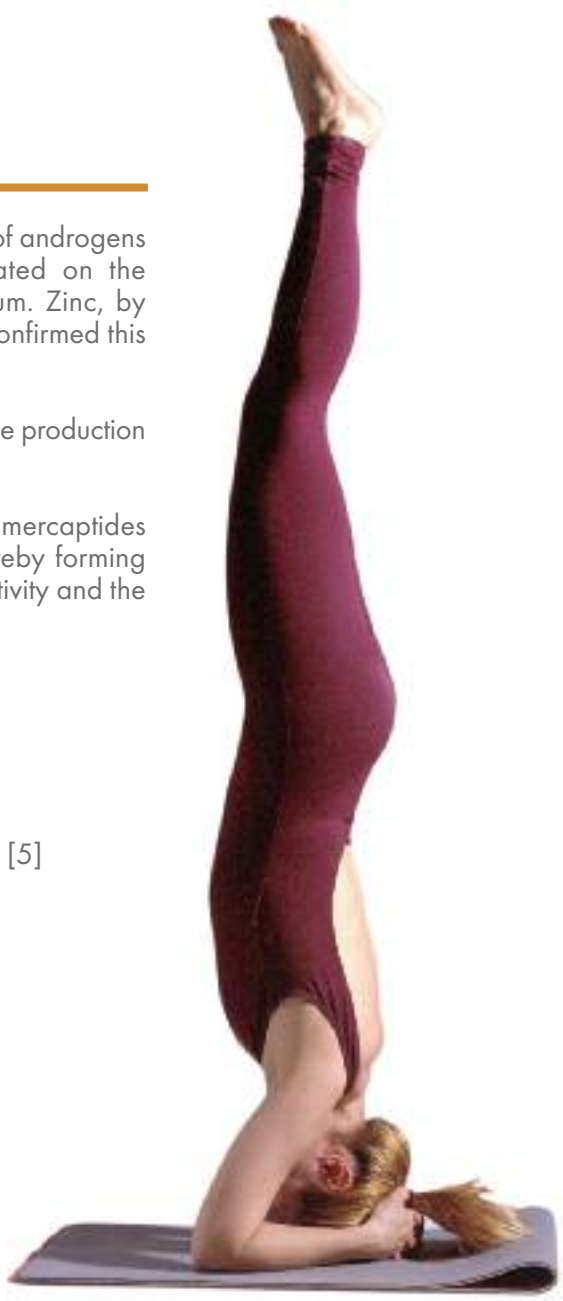
Moreover, zinc ions exert an **anti-inflammatory action**. It reduces the production of TNF-α and maintains cell viability [1].

In vitro, zinc causes a **reduction of oxidative stress**. It would form mercaptides with the thiol groups of the membranes of preventing protein, thereby forming radicals with other metal ions. Furthermore, it would maintain the activity and the structure of the superoxide dismutase.

A **wound healing** action was demonstrated [2, 3].

Also, it can be used for:

- **The management of diarrhea and peptic ulcer**
- **Increasing sperm counts in infertile men** [4]
- **Treating attention-deficit/hyperactivity disorder in children** [5]
- **Eye supplementation studies** [6]



BIOAVAILABILITY

Several studies show that zinc gluconate has a very good solubility and is non irritating for the GI tract.
It is the most bioavailable and it can be incorporated into any formulation.

	Man	Woman
EU	9 mg	7 mg
USA	1 mg	9 mg

RDA (Recommended Dietary Allowance) for zinc (mg per day)

EU AUTHORIZED HEALTH CLAIMS FOR ZINC

- Zinc contributes to the maintenance of normal **hair, nails and skin**
- Zinc contributes to the maintenance of normal **testosterone levels in the blood**
- Zinc contributes to normal **fertility and reproduction**
- Zinc contributes to the normal **function of the immune system**
- Zinc contributes to the **protection of cells from oxidative stress**
- Zinc has a role in the **process of cell division**
- Zinc contributes to normal **metabolism of carbohydrate metabolism, fatty acids, vitamin A, acid-base**
- Zinc contributes to normal **cognitive function**
- Zinc contributes to normal **protein synthesis**
- Zinc contributes to normal **DNA synthesis**
- Zinc contributes to normal **macronutrient metabolism**
- Zinc contributes to the maintenance of normal **bones and vision**

[1] Gueniche A (1995) Protective effect of Zinc on keratinocyte Activation markers induced by interferon or nickel. Acta Derm Venereol. 75(1): 19-23.
[2] Lansdown ABG et al. (2007) Zinc in wound healing: theoretical, experimental and clinical aspects. Wound rep reg. 15(1):2-16.
[3] Tenaud I et al. (1999) In vitro modulation of keratinocyte wound healing integrins by zinc, copper and manganese. British Journal of Dermatology. 140(1):26-34.
[4] Hadwan M, Almashhedy L, Alsalman A (2012) Oral zinc supplementation restores high molecular weight seminal zinc binding protein to normal value in Iraqi infertile men. BMC Urol. 12:32.
[5] Arnold L, Disilvestro R, Joseph E et al (2011) Zinc for attention deficit/hyperactivity disorder: placebo-controlled double-blind pilot trial alone and combined with amphetamine. J Child Adolesc Psychopharmacol. 21:1-19.
[6] Vishwanathan R, Chung M, Johnson E (2013) A systematic review on zinc for the prevention and treatment of age-related macular degeneration. Invest Ophthalmol Vis Sci. 54:3985-3998.

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