**Testosterone**

- **Carnitine**
  - Boosts dopamine, which is directly related to testosterone levels; May prevent testosterone decline after intense physical stress. [21,22,23,24]

- **Zinc**
  - Deficiency lowers testosterone levels;
  - Inhibits prolactin secretion (testosterone inhibiting hormone);
  - Supplementation increases testosterone depending on baseline levels. [25,26,27]

- **Magnesium**
  - Makes testosterone more biologically active in the body;
  - Raises free and total testosterone levels in men. [25,26,27]

- **Vitamin B6**
  - Regulates sex hormones;
  - Vitamin B6 reduces prolactin which stimulates hypothalamus to increase testosterone;
  - B6 also a cofactor for dopamine synthesis which influences testosterone levels. [4,5,6,7]

- **Folate**
  - Deficiency reduces circulating testosterone;
  - Evidence suggests testosterone may regulate folate metabolism. [1,2,3]

- **Vitamin D**
  - Actually a hormone, vitamin D regulates the synthesis of testosterone;
  - Supplementation can significantly increase total, free and bioactive testosterone levels. [8,9,10,11,12]

- **Vitamin K**
  - Deficiency reduces testosterone production because the rate-limiting enzyme for testosterone synthesis (Cyp11a) is vitamin K dependent. [13,14,15]

- **Vitamin E**
  - Long term administration of some forms of vitamin E may reduce testosterone levels. [16,17]

- **Vitamin C**
  - Studies suggest it protects prostate from testosterone induced tumors. [18,19,20]

- **Vitamin K**
  - Deiciency reduces testosterone production because the rate-limiting enzyme for testosterone synthesis (Cyp11a) is vitamin K dependent. [13,14,15]
REFERENCES


