

IMMUNITY-BOOSTING NUTRIENTS

It is generally advised to eat a healthy balanced diet rich in fruits and vegetables, which allows us to get different nutrients through our food. In addition to healthy eating, being physically active, reducing stress and getting enough sleep will also help support normal immune functioning.

Vitamin A

Helps maintain structural and functional integrity of mucosal cells (e.g. skin, respiratory tract), necessary for proper functioning of T- and B-lymphocytes



Food sources: beef liver, salmon, dairy products, leafy green vegetables, carrots, squash, mango

Vitamin C

Effective antioxidant, promotes collagen synthesis, which supports the integrity of epithelial barriers, increase antibody production



Food sources: guava, citrus fruits, tomatoes, red and green peppers

Vitamin D

Stimulates immune cell proliferation and cytokine production, helps protect against infection caused by pathogens, regulates the antimicrobial proteins.



Food sources: fish (bangus, sardines), cheese, egg

Folate

Maintains innate immunity, important for sufficient antibody response to antigens



Food sources: beef liver, dark and leafy vegetables, nuts, beans, orange, dark chocolate, munggo

Vitamin B6

Helps regulate inflammation, required for the synthesis of amino acids, cytokines and antibodies



Food sources: fish, poultry, organ meats, potatoes, banana

Vitamin B12

Facilitates the production of T lymphocytes, involved in cellular immunity and one-carbon metabolism



Food sources: clams, fish (bangus, tuna, salmon), beef, poultry, eggs, milk, yogurt, cheese, chicken

Iron

Forms highly-toxic hydroxyl radicals, that kill bacteria and inactivate pathogens



Food sources: liver, beef, seafood, chicken, white beans, munggo, nuts, dark and leafy greens

Zinc

Antioxidant effects, helps maintain skin and mucosal membrane integrity, supports differentiation of immune cells



Food sources: oysters, red meat, seafood, poultry, beans, nuts, whole grains, dairy products

Copper

Free-radical scavenger, role in antibody production and cellular immunity



Food sources: beef liver, oysters, nuts and seeds, leafy greens, dark chocolate, munggo

Selenium

Essential for the function of selenium-dependent enzymes for antioxidant defense, involved in antibody production



Food sources: seafood, meat, poultry, eggs and dairy products, whole grains (based on soil content)

References:

1. *Food and coronavirus (COVID-19): What You need to know.* Eufic. (n.d.). Retrieved January 19, 2022, from <https://www.eufic.org/en/food-safety/article/food-and-coronavirus-covid-19-what-you-need-to-know>
2. Guidance on the scientific requirements for health claims related to the immune system, the gastrointestinal tract and defence against pathogenic microorganisms. (2016). *EFSA Journal*, 14(1). <https://doi.org/10.2903/j.efsa.2016.4369>
3. *Nutrients.* Retrieved January 19, 2022, from <https://www.mdpi.com/2072-6643/10/10/1531>