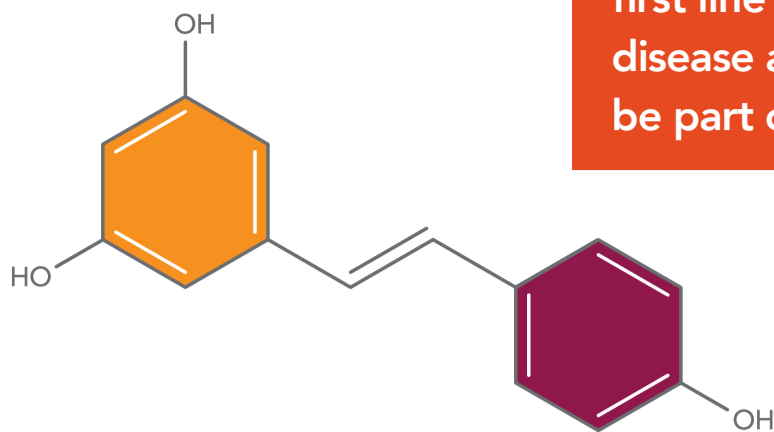


# Support Immune Health with Resveratrol



A healthy immune system is the body's first line of defense against the risk of disease and infections, and resveratrol can be part of the solution.



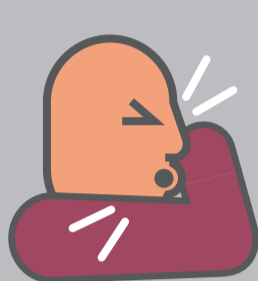
## trans-resveratrol (3,5,4'-trihydroxy-trans stilbene)

Resveratrol is a polyphenolic compound found in grapes, berries, peanuts and wine. It is one of the most investigated compounds with more than 200 human clinical studies published. The latest research has reported positive outcomes in several aspects of immune health and antioxidant support.



## A Healthy Immune System is Nothing to Sneeze at

The global immune health supplements market will reach \$28 Billion USD by 2027, reported in a 2019 report published by Kenneth Research.<sup>1</sup> This report suggested a CAGR of 7.5%, but with the latest Coronavirus (COVID-19) outbreak, the current demand for immune support is skyrocketing.



**87%** of consumers are interested in products with immune benefits<sup>2</sup>



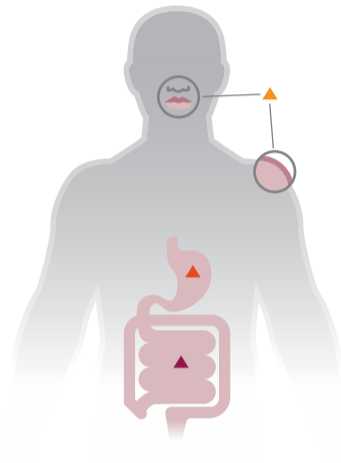
Immune health is the #2 most desired benefit consumers want from a functional food or beverage<sup>2</sup>



**25%** of consumers feel that their immune system is poor or very poor<sup>3</sup>

## The Immune System Provides 3 Levels of Defense

The main cells involved in the immune response are the White Blood Cells (WBCs) also called leukocytes. Several types of WBCs are made in the bone marrow and travel through the lymph vessels to protect the body against infection and foreign invaders.



### 1 Barrier: preventing entry

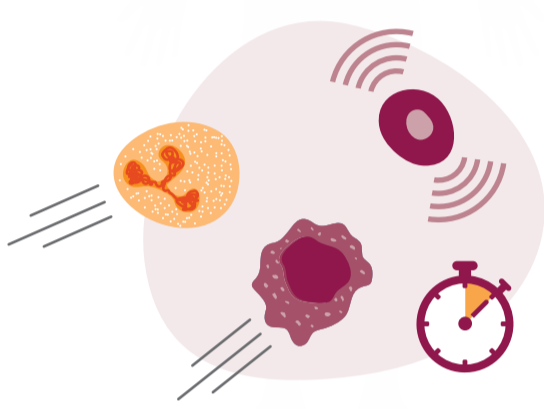
- ▲ Skin and mucous membranes
- ▲ Stomach acid and digestive enzymes
- ▲ Beneficial bacteria that live in the gut microbiota

### 2 Innate Immunity: non-specific defense<sup>4,5</sup>

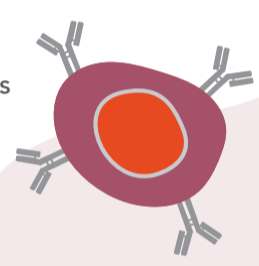
- WBCs, such as neutrophils and macrophages, engulf and destroy foreign invaders and damaged cells
- Timing: immediate and robust

### 3 Adaptive or Acquired Immunity: specific defense<sup>4,5</sup>

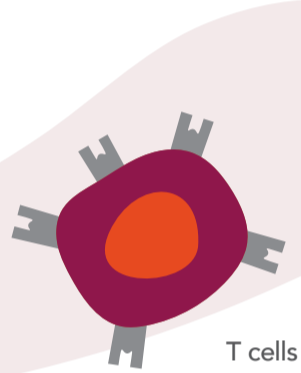
- WBCs, such as T lymphocytes (T cells), target and destroy specific pathogens
- WBCs, such as B lymphocytes (B cells) and plasma cells, produce antibodies that target and destroy bacteria, bacterial toxins, viruses, fungi, and parasites
- Timing: 4-7 days



B cells



T cells



4-7



▶ get plenty of sleep



▶ reduce stress



A healthy immune system can be boosted in many ways

▶ eat healthy, well-balanced, vitamin-rich food



▶ take vitamins



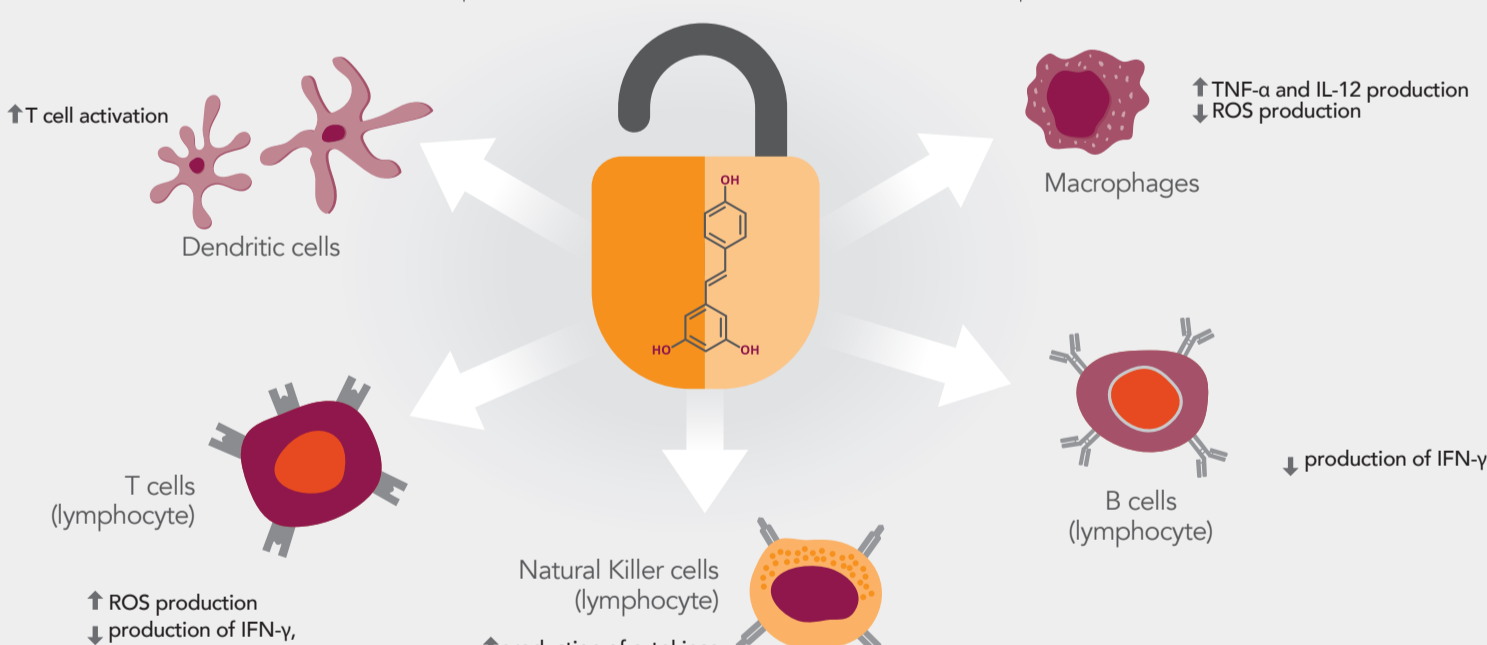
## Bioactive Supplements can play a significant role in helping support immune health

Resveratrol has been reported as affecting the regulation of innate and adaptive immunity by interacting with several molecular targets to:

Prevent the production of interleukin-2 (IL-2) and interferon-gamma (IFN- $\gamma$ ) by lymphocytes (T cells, Natural Killer cells, and B cells).

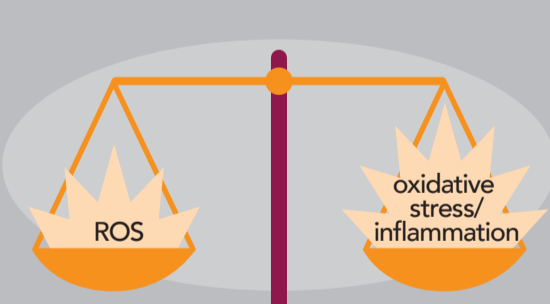
Promote the production of Dendritic cells (innate and adaptive immunity) which promote the activation of T cells.

Stimulate the production of tumor necrosis factor-alpha (TNF- $\alpha$ ) and IL-12 by macrophages.<sup>6</sup>



## Resveratrol also acts as a powerful antioxidant to balance the generation of reactive oxygen species (ROS) to help kill invading organisms<sup>6</sup>

Immune cells produce ROS to help eliminate invading microorganisms; however, this process can lead to inflammation.



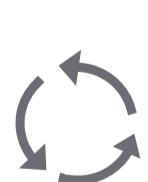
Several compounds, including resveratrol, can help keep the levels of inflammation and oxidative stress under control to avoid damage to tissues.

By interacting with these targets, it seems resveratrol supports the immune system by promoting immune cell regulation, proinflammatory cytokines' synthesis, and gene expression of key proteins, such as TLR (toll-like receptors).

## Tips for sourcing high-quality resveratrol



**Free of contaminants:** Ask about contaminants such as polycyclic aromatic hydrocarbons (PAHs) which can be found in polygonum sourced resveratrol, even when reported as 98% pure. Veri-te™ resveratrol is produced through fermentation and is free from PAH contaminants and pesticides.



**Sustainability:** Look for ingredients that are sustainably sourced without the use of chemical synthesis, harsh chemicals or intensive farming.



**Purity:** Look for pure white or off-white powder, free from unwanted contaminants that may impact taste or odor.



**Reliability:** Source from metric ton scale production with consistent batch process in place.



**Quality:** Demand cGMP and HACCP based food safety conditions.



**Science-backed ingredients:** Work with companies that support clinical trials.



**Certifications:** Request Halal and Kosher certification as needed.



**Expertise beyond sales:** Look for technical, regulatory, applications, sales and marketing support to drive new product development from concept to shelves.



Learn more about Veri-te™ resveratrol and leading edge immune health research. [res@veriteresveratrol.com](mailto:res@veriteresveratrol.com) or visit [www.veriteresveratrol.com](http://www.veriteresveratrol.com).

Please note this review is for educational purposes and intended for commercial use only.

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