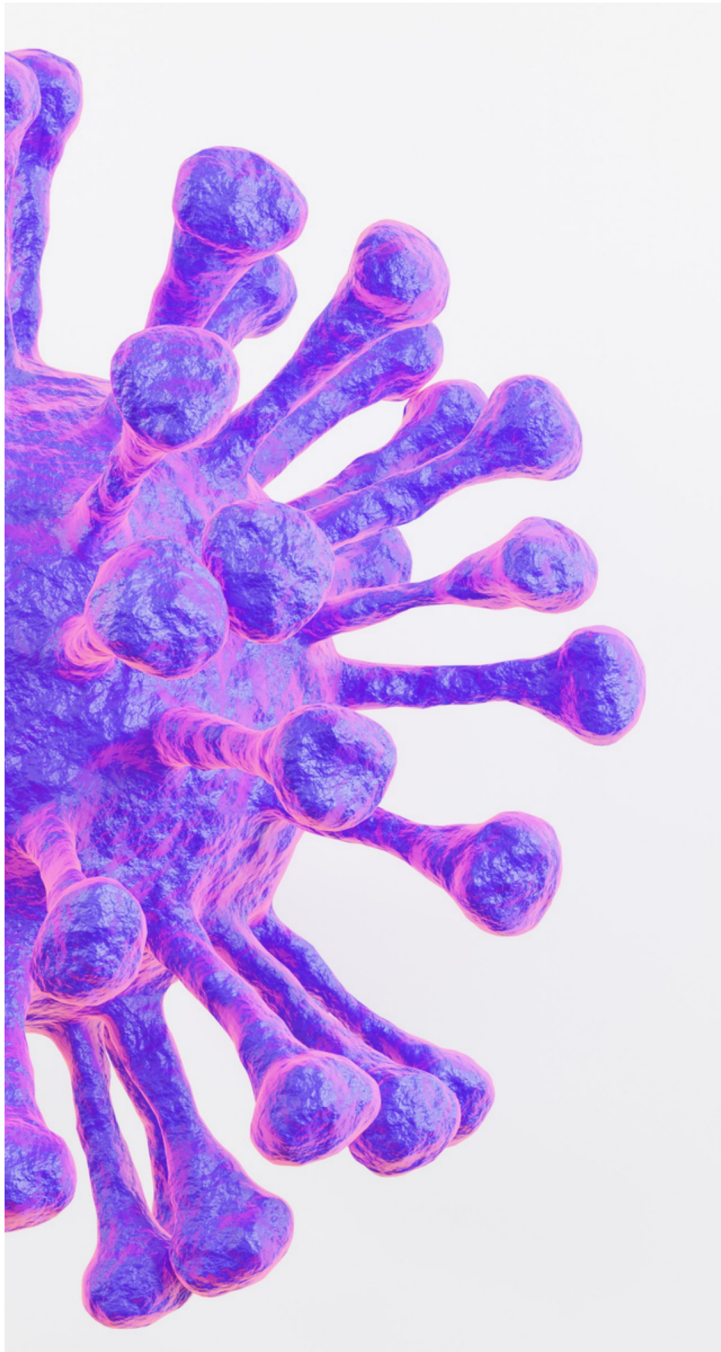


AHCC: A Powerful Aid Against Viruses and Infections

BY JAMES J. GORMLEY



While many nutritional supplements claim immune-boosting properties, few have undergone rigorous research, and rarely are products studied for their effectiveness against actual infectious diseases. Research on popular immune ingredients, such as vitamin C or echinacea, for preventing and treating the common cold has produced mixed results. Moreover, the mechanisms of action for most ingredients remain unclear, making it difficult to assess their efficacy for more serious conditions.

One notable exception is AHCC®, a novel nutraceutical developed in Japan that has been extensively studied and used by clinicians as a countermeasure to infectious diseases. Research on AHCC suggests that AHCC can, in clinical settings, stimulate immune response and help protect against viruses and infections.

AHCC is produced using a proprietary culturing process involving subspecies of cultivated medicinal mushrooms and is rich in oligosaccharides (74% by dry weight).

Hundreds of doctors worldwide use AHCC as an adjunct alternative therapy for cancer, hepatitis C, and other chronic conditions. Consequently, AHCC has become the top-selling specialty immune supplement in Japan and has gained broad acceptance in the U.S., available in most natural product stores nationwide.

Both human and animal studies have shown AHCC's ability to enhance the activity of natural killer (NK) cells, which provide a crucial first

defense for the body by launching a rapid attack while other immune system cells are still mobilizing. Researchers believe that NK cells, although capable of destroying tumors and virus-infected cells from birth, require activation.

Activated NK cells help the body by secreting cytokines—chemical messenger proteins that activate the immune system—and also substances that directly induce the destruction of tumors and virus-infected cells.

The clinical evidence that AHCC increases NK cell activity and the role of NK cell activity suggests that AHCC could boost the NK cell response to viral infections.

Researching infectious diseases is challenging due to the lack of ethical, practical, or reliable means of evaluating the human response to infectious agents, forcing researchers to rely on animal models. Therefore, the research strategy for AHCC has been to show efficacy in infectious diseases using animal models while conducting human clinical trials to demonstrate its ability to stimulate NK cell activity in immunocompromised patients.

Published research shows that AHCC provides benefits for stress, immunity, cancer and more.

According to a 2018 study in healthy people, under mental stress AHCC increased sympathetic nervous activity, with no difference in the parasympathetic nervous system.[1] In subjects with chronic mental stress, self-reported “initiation and maintenance of sleep” was significantly greater in the AHCC-intake period than in the placebo intake period. Natural killer cell activity also increased after AHCC intake, suggesting a possible mechanism of action of AHCC. Our findings indicate that AHCC is potentially effective in stress management and may be useful in the treatment of depression.

Regarding immunity, a 2014 study evaluated the



effects of AHCC on immune competence in healthy volunteers.[2] Thirty-four subjects were randomized to receive placebo or AHCC at 1 g/d for 4 weeks in early winter. Natural killer cell activity was significantly increased in both groups during the study period. In addition, the score of immunological vigor, an index of total immune competence, was maintained in the AHCC group although that of placebo group lowered during the test period.

Regarding viral challenges, animal research has shown that

AHCC supplementation may “enhance host resistance against mild and severe COVID-19 infection primarily via the promotion of innate and adaptive T cell immune responses in mice.”[3]

AHCC has been reported to be used as an immunostimulant for animals and humans affected by viral infections. In this context, AHCC may be used (in clinical settings) to reduce the risk of COVID-19 after evaluation of its efficacy against SARS-CoV-2.[4,5]

As summarized in a 2019 review, the “effects of AHCC on NK and T cells appear to have biological implications as suggested by the results of clinical studies and in vivo animal studies on infections, inflammation, and tumors.”[6]

AHCC also boasts a strong safety profile supported by a Phase I study conducted at Harvard, a long history of use in Japan, its adoption by over 1,000 clinics, and use by an estimated 70,000 people worldwide (including 20,000 in the U.S.) make a strong case for adding AHCC to a daily supplement regimen to support the immune system, not only during times of increased infectious threat, such as flu season, but also year-round.

Recent Research

In the previously noted 2019 review of human and animal studies, AHCC was found to modulate the numbers and functions of immune cells including natural killer (NK) and T cells — which play important roles in host defense — “suggesting the possible implication of its supplementation in defending the host against infections and malignancies via modulating the immune system.”[6]

In a 2023 study, results indicated that “following a healthy diet rich in prebiotics [notably AHCC] and probiotics is an optimal strategy for programming immune system function in the critical developmental windows of life [including puberty] and controlling inflammation later in life.”[7]

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