



Agaricus (*Agaricus subrufescens* [*blazei* Murill]) is highly valued for its richness in beta-glucans, and its health-enhancing benefits have been proclaimed for millennia. Having been validated through evidence-based science, some of the underlying reasons for its benefits include: 1) strong immunomodulating properties;^{1, 2} 2) increased production of key immune cells (helper T-cells [CD4+] and cytotoxic T-cells [CD8+]);^{3, 4} 3) production of leukocyte-enhancing, and NK-Cell activating effects;⁵ 4) liver-health supportive effects;^{6, 7} 5) significant production of cytokines (regulatory messengers of the immune system);⁸ 6) effective antioxidant activity;⁹ and 7) adjuvant benefits when used with some conventional therapies.¹⁰

¹ **Immunomodulating Activity of Agaricus brasiliensis KA21 in Mice and in Human Volunteers.** Liu Y, Fukuwatari Y, Okumura K, et al. Evid Based Complement Alternat Med. 2008 Jun;5(2):205-219. <http://www.ncbi.nlm.nih.gov/pubmed/18604247>

Free Full text: <http://ecam.oxfordjournals.org/cgi/content/full/5/2/205>

² **Tumor-specific cytotoxic and immunopotentiating effects of relatively low molecular weight products derived from the basidiomycete, Agaricus blazei Murill.** Fujimiya Y, Suzuki Y, Katakura R, Ebina T. Anticancer Res. 1999 Jan-Feb;19(1A):113-8. <http://www.ncbi.nlm.nih.gov/pubmed/10226531>

³ **Polysaccharides from Agaricus blazei stimulate lymphocyte T-cell subsets in mice.** Mizuno M et al. Biosci Biotechnol Biochem. 62, 30:434-7, 1998. <http://www.ncbi.nlm.nih.gov/pubmed/9571772> ; Full text: http://www.jstage.jst.go.jp/article/bbb/62/3/62_434/article

⁴ **Effects of the medicinal mushroom Agaricus blazei Murill on immunity, infection and cancer.** Hetland G, Johnson E, Lyberg T, ET AL. Scand J Immunol. 2008 Oct;68(4):363-70. <http://www.ncbi.nlm.nih.gov/pubmed/18782264>

⁵ **Immunomodulating Activity of Agaricus brasiliensis KA21 in Mice and in Human Volunteers.** Liu Y, Fukuwatari Y, Okumura K, et al. Evid Based Complement Alternat Med. 2008 Jun;5(2):205-219. <http://www.ncbi.nlm.nih.gov/pubmed/18604247>

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⁶ **Immunomodulating Activity of Agaricus brasiliensis KA21 in Mice and in Human Volunteers.** Liu Y, Fukuwatari Y, Okumura K, et al. Evid Based Complement Alternat Med. 2008 Jun;5(2):205-219. <http://www.ncbi.nlm.nih.gov/pubmed/18604247>

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⁷ **The mushroom Agaricus blazei Murill extract normalizes liver function in patients with chronic hepatitis B.** Hsu CH, Hwang KC, Chiang YH, Chou P. J Altern Complement Med. 2008 Apr;14(3):299-301. <http://www.ncbi.nlm.nih.gov/pubmed/18370584>

⁸ **Interleukin-12- and interferon-gamma-mediated natural killer cell activation by Agaricus blazei Murill.** Yuminamochi E, Koike T, Takeda K, Horiuchi I, Okumura K. Immunology. 2007 Jun;121(2):197-206. Epub 2007 Mar 7. <http://www.ncbi.nlm.nih.gov/pubmed/17346284>; Full text: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2265935/?tool=pubmed>

⁹ **Tumoricidal effects of beta-glucans: mechanisms include both antioxidant activity plus enhanced systemic and topical immunity.** Gu Y, Fujimiya Y, Itokawa Y, et al. Nutr Cancer. 2008;60(5):685-91. <http://www.ncbi.nlm.nih.gov/pubmed/18791933>

¹⁰ **Inhibitory action of a (1->6)-beta-D-glucan-protein complex (F III-2-b) isolated from Agaricus blazei Murill ("himematsutake") on Meth A fibrosarcoma-bearing mice and its antitumor mechanism.** Itoh H, Ito H, Amano H, Noda H. Jpn J Pharmacol. 1994 Oct;66(2):265-71. <http://www.ncbi.nlm.nih.gov/pubmed/7869611> ;

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