

Medicinal Mushrooms



Shiitake (*Lentinula erodes*)

Shiitake stimulates the anti-tumour activity of macrophages, white cells which are present in tissues which engulf and digest debris and pathogens, and have the single minded pursuit of microbes and tumour cells.

Beta-glucans are naturally occurring polysaccharides found in Shiitakes and *Schizophillum commune* (Split gill mushrooms) and have been used as a normal part of cancer treatment in Japan since the 1960s. They have the property of inhibiting tumour progression via activation of natural killer cell function and interfering with tumour angiogenesis. a.



Split gill mushrooms (*Schizophillum commune*)



Split gill mushrooms



Trametes versicolor

Trametes versicolor may be beneficial in the treatment of both oestrogen receptor positive and oestrogen receptor negative breast cancers by mitigating the immunologic side effects of treatments and enhancing survival. b.

Multiple epidemiologic and immune studies have validated the hypothesis that immune function plays an important role in breast cancer treatment and prevention. Specific research shows that polysaccharide peptide (PSP) and krestin (PSK), two proteoglycan constituents of *Trametes versicolor* (Turkey Tail, or *Coriolus*) have anti-cancer potential, After being approved as a cancer therapy in 1977, PSK now represents 25% of the national cancer care costs in Japan.

Results from clinical trials indicate that PSP and PSK, as immune therapies, improve recovery and survival rates in breast cancer. Many of these trails found the PSK and PSP were successful adjuvants to chemotherapy. One trail found that patients that received chemotherapy with PSK as an adjuvant had significantly prolonged survival rates after recurrence compared with those who had chemotherapy alone.

a. Akramienne D, Kondrotas A, Didziapetrienne J, Kevelatis E. Effects of Beta-glucans on the immune system. *Medicina (Kaunas)* 2007;43(8):597-606

b Standish LJ, Wenner CA, Sweet ES, Nelson A, Martzen, et al Trametes versicolor mushroom immune therapy in breast cancer. *J soc Intergr Oncol* 2008 Summer, 6(3):122-128

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