Carcinoma pulmonar de Lewis. O Agaricus blazei Murill possui piroglutamato de sódio com efeito antiangiogênico, antimetastático e imunoestimulante: Primeiro trabalho na literatura

Os mesmos autores já haviam demonstrado o efeito antiangiogênico da vitamina D (ergosterol) presente no Agaricus blazei Murill.

Isolation of an anti-angiogenic substance from Agaricus blazei Murill: its antitumor and antimetastatic actions.

Kimura Y, Kido T, Takaku T, Sumiyoshi M, Baba K.

Cancer Sci. 2004 Sep;95(9):758-64.

Source
Second Department of Medical Biochemistry, School of Medicine, Shigenobu Station, Ehime University, Shigenobu-cho, Onsen-gun, Ehime 791-0295, Japan. yokim@m.ehime-u.ac.jp

Abstract
We previously found that ergosterol isolated from Agaricus blazei inhibited tumor growth through the inhibition of tumor-induced neovascularization. In the present study, we isolated further anti-angiogenic substances (A-1 and A-2) from this fungus using an assay system of angiogenesis induced by Matrigel supplemented with vascular endothelial growth factor, and A-1 was identified as sodium pyroglutamate. Next, we examined the antitumor and antimetastatic actions of A-1 using Lewis lung carcinoma (LLC)-bearing mice. A-1 (30, 100 and 300 mg/kg) inhibited tumor growth and metastasis to the lung. The reduction of the numbers of splenic lymphocytes, CD4+ and CD8+ T cells in LLC-bearing mice was inhibited by the oral administration of A-1 (30, 100 and 300 mg/kg). Further, A-1 increased the number of apoptotic cells of tumors and the numbers of CD8+ T and natural killer cells invading the tumors, and inhibited the increase of von Willebrand factor expression (a measure of angiogenesis) in the tumors. These results suggest that the antitumor and antimetastatic actions of A-1 (sodium pyroglutamate) may be associated with inhibition of the reduction of immune response caused by the tumor growth and tumor-induced neovascularization. This is the first report showing that sodium pyroglutamate isolated from A. blazei as an anti-angiogenic substance has potent antitumor and antimetastatic actions, as well as immune-modulatory activity, in tumor-bearing mice. PMID:15471563