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Antitumor Activity of Beta Glucan Extract from Oyster Mushroom (*Pleurotus ostreatus* Jacq. P. Kum) on DMBA-Induced Breast Cancer *in vivo*

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Abstract : It has been indicated that beta glucan is potential for anticancer due to its activity as immunomodulator. The aim of this research was to study the antitumor activity of oyster mushroom's beta glucan in female rats induced with 7,12 Dimethylbenz(a)anthracene (DMBA) as cancer promotor. Experimental rats were divided into four groups which consist of control group, DMBA group and beta glucan-treated groups (with two different doses of 0.25 g.kg⁻¹ and 1 g.kg⁻¹). Inhibition of carcinogenesis were demonstrated in beta glucan-treated group which showed lower case of tumor incidence than DMBA group. Total volume and numbers of tumor nodules in beta glucan-treated group were lower than DMBA group. Analysis of histopathology of tumor nodules showed that beta glucan-treated group had a lower score than DMBA group indicating less severity of tumor. In conclusion, beta glucan from oyster mushroom has antitumor activity on DMBA-induced breast cancer *in vivo*.

Keywords: beta glucan, *Pleurotus ostreatus*, carcinogenesis, immunomodulator, DMBA.

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