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Original Article *(Dette er en oppsummering, hele artikkelen er referert over).*

Agaricus blazei Extract Induces Apoptosis through ROS-Dependent JNK Activation Involving theMitochondrial Pathway and Suppression of Constitutive NF-κB in THP-1Cells

Mun-Ock Kim,[1] Dong-OhMoon,[1] JinMyung Jung,[2] Won Sup Lee,[3] Yung Hyun Choi,[4] and Gi-Young Kim[1]

[1] *Laboratory of Immunobiology, Department of Marine Life Science, Jeju National University, Jeju, Republic of Korea* [2]*Department of Neurosurgery, Institute of Health Science, Gyeongsang National University School of Medicine, Republic of Korea* [3]*Department of Internal Medicine, Institute of Health Science, Gyeongnam Regional Cancer Center, Gyeongsang National University School of Medicine, Jinju, Republic of Korea* [4]*Department of Biochemistry, Dongeui University College of Oriental Medicine, Busan, Republic of Korea*

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Agaricus blazei is widely accepted as a traditional medicinal mushroom, and it has been known to exhibit immunostimulatory and anti-cancer activity. However, the apoptotic mechanism in cancer cells is poorly understood. In this study, we have investigated whether *A. blazei* extract (ABE) exerts antiproliferative and apoptotic effects in human leukemic THP-1 cells. We observed that ABE-induced apoptosis is associated with the mitochondrial pathway, which is mediated by reactive oxygen species (ROS) generation and prolonged c-Jun N-terminal kinase (JNK) activation. In addition, the ABE treatment resulted in the accumulation of cytochrome *c* in the cytoplasm, an increase in caspase activity, and an upregulation of Bax and Bad. With those results in mind, we found that ABE decreases constitutive NF-κB activation and NF-κB-regulated gene products such as IAP-1 and -2. We concluded that ABE induces apoptosis with ROS-dependent JNK activation and constitutive activated NF-κB inhibition in THP-1 cells.