Ha-rim Choi et al., J Cancer Sci Ther, 3:7
doi: http://dx.doi.org/10.4172/1948-5956.S1.02

OMICS Group Conferences
Accelerating Scientific Discovery

International Conference & Exhibition on
Cancer Science & Therapy
15-17 August 2011 Las Vegas, USA

The anti-tumor effect of fermented curcumin

Ha-rim Choi[1], Hyung-Sik Kang[2] and Youn-Tae Chi[2]

[1]Department of Food and Nutrition, Nambu University, Republic of Korea,
[2]School of Biological Sciences and Technology, Chonnam National University, Republic of Korea

Curcumin (diferuloylmethane) has been known to suppress tumor progression. To identify curcumin derivatives having more potent anti-tumor activity, we compared the anti-tumor effect of curcumin and fermented curcumin fermented by *bacillus subtillus*. Fermented curcumin (diferuloylmethane) markedly suppressed proliferation of various cancer cells through regulation of cell cycle progression compared to curcumin. Expression of apoptosis-associated genes was elevated by treatment of cancer cells with fermented curcumin in a dose-dependent manner. In addition, fermented curcumin suppressed metastasis by downregulating MMP expression. More importantly, the susceptibility to NK cell-mediated killing of cancer cells was modestly more increased in cancer cells treated with fermented curcumin than in those treated with only curcumin. These findings collectively suggest that fermented curcumin plays an essential role in the regulation of tumorigenecity.