P079 Antimutagenic activity in 'KINME' extract of Japanese rice

Shigeki KITAGAMI[1], Shunsuke NATSUI[1], Yoshiharu OKUNO[2], Yoshimitsu ODA[3], Hirotoshi UTSUNOMIYA[2], Shin-ichi AKAZAWA[1]：*Department of Materials Engineering, Nagaoka National College of Technology[1], School of Medicine, Wakayama Medical University[2], Osaka Prefectural Institute of Public Health[3]*

Recently, increases the lifestyle-related disease such as diabetes, hyperlipidemic, are problematical in Japan. It is considered that change of eating habits is responsible for the lifestyle-related disease. Japanese food is reappraised as healthy foods. 'KINME MAI' is the Japanese rice which left the base of 'AKOFUNSO' (subaleurone layer) and germs. 'KINME' is a piece of rice germ. Plant germ is known to have several biological activities. So, it is thought that functional compounds such as antimutagenic and antioxidant are involved in the KINME.
To investigate the antimutagenic compounds in 'KINME', we have examined 'KINME' fraction of its. The sample was prepared as lyophilized KINME after the heat treatment. The methanol extract of KINME showed a suppressive effect of the SOS-inducing activity on the mutagen Trp-P-1 in the *Salmonella typhimurium* TA1535/pSK1002 *umu* test. The methanol extract was re-extracted with hexane, dichloromethane, ethyl acetate, and water. The hexane and dichloromethane fractions showed suppressive effect. In this report, we attempted to isolate the antimutagenic compounds from dichloromethane fraction.

金芽米の金芽部分に含まれる抗変異原物質の探索

北上茂樹[1]，夏井俊介[1]，奥野祥治[2]，小田美光[3]，宇都宮洋才[2]，赤澤真一[1]：長岡高専・物質工[1]，和医大・医[2]，大阪府立公衆衛生研[3]

Shin-ichi

P080 Inhibition of PKB/Akt activity involved in apigenin-induced apoptosis in human gastric carcinoma cells

Kun WU, Linhong YUAN, Yan ZHAO, Wei XIA：*Harbin Medical University*

Apigenin is a flavonoid widely distributed in fruits and vegetables. It possesses growth inhibitory properties against numerous cancer cell lines. However, the molecular mechanism(s) by which apigenin elicits its effects have not been fully elucidated. Here we studied whether apigenin inhibits growth and induces apoptosis in human gastric carcinoma cells. The results show that the flavonoid inhibited the growth of SGC-7901 cells and caused apoptosis, as evidenced by DNA ladder, cleavage of pro-caspase-3 in a time-dependent manner. Induction of apoptosis was dependent on inhibition of the PKB/Akt activity. While apigenin had no effect on the expression of Akt and Bad, it inhibited specific phosphorylation of the two proteins associated with pro-survival mechanisms. We propose that this important flavonoid induces apoptosis in gastric cancer cells by inhibiting Akt activity. Since Akt is often activated in cancers, our findings may have clinical implications.

Inhibition of PKB/Akt activity involved in apigenin-induced apoptosis in human gastric carcinoma cells

WU Kun, YUAN Linhong, ZHAO Yan, XIA Wei：*Harbin Medical University*