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STUDIES ON ENHANCING CHEMOPREVENTIVE EFFECT OF CHUNGKOOKJANGS 1. ENHANCED ANTIMUTAGENIC ACTIVITY OF CHUNGKOOKJANGS PREPARED WITH THE DIFFERENT VARIETY OF SOYBEAN AND STARTER

Kun-Young Park, Eun-Young Kwon, and Keun-Ok Jung

Dept. of Food Science and Nutrition, Pusan National University, Pusan 609-735, Korea

Antimutagenic effect of *chungkookjangs* prepared with the different variety of soybean and starter were studied against aflatoxin B_1 (AFB1) using Ames test and *N*-methyl-*N'*-nitro-*N*- nitrosoguanidine (MNNG) using SOS chromotest. *Chungkookjang* samples exerted the different antimutagenicity according to the prepared variety of soybeans in the Ames test using *Salmonella typhimurium* TA100. The *chungkookjang* manufactured with var. Joonjuhri and Manrikong effectively reduced the mutagenicity induced by AFB1. The revertants of the *S. typhimurium* TA100 strain induced by AFB1 were not decreased when Hwangkeumkong- and US No. 1-used *chunkookjangs* were added to the test system. MNNG induced SOS response of the *E. coli* PQ37 was also blocked by *chungkookjangs* manufactured with var. Joonjuhri and Manrikong in the SOS chromotest. The *chungkookjangs* fermented with rice straw and starter cultures had the strong inhibitory effects on the mutagenicity induced by AFB1, while the *chungkookjang* prepared with inoculation-free method showed low inhibition rate in the Ames test. In the SOS chromotest, the patterns of antimutagenic effects were almost the same as shown in the Ames test system. The *chungkookjangs* fermented with rice straw and starter culture showed higher inhibitory effect than *chungkookjang* prepared with inoculation-free method. These results indicate that the variety of the soybeans and the starter of the *chungkookjang* differ the degrees of the antimutagenicity of the manufactured final *chungkookjangs*.