P-4

Detection of Single Stranded DNA Breakages of Mycotoxins Using The Alkaline Single Cell Gell Electrophoresis Assay (Comet Assay)

Min-Hee Kim°, Kyung-Hea Cho*, Il-Moo Chang** and Jae-Chun RYU

Toxicology Laboratory, Korea Institute of Science and Technology,
*Department of Biology, Seoul Woman's University,
**Natural Products Research Institute, Seoul National University.
P.O. Box 131, Cheongryang, Seoul, 130-650, Korea,
*San 228-32 Kongneung-dong, Nowon-gu, Seoul, 139-744, Korea,
**28 Yungeon-dong, Chongro-gu, Seoul, Korea.

Various kinds of toxic metabolites called mycotoxin were isolated from pathogenic fungi as causal agents of food and feed intoxication in humans and livestocks.
To determine the DNA strand breakage in cell level, we performed single cell gel electrophoresis assay (comet assay) for 7 mycotoxins such as trichothecences (T-2 toxin, deoxynivalenol, nivalenol), dihydrobisfuran (aflatoxin B_1), isocoumarins (ochratoxin A), fumonisin B_1, and zearalenol in chinese hamster lung fibroblast cells with and without metabolic activation system. To decide optimum concentration for comet assay, the cytotoxicity of 7 mycotoxins was determined by MTT and trypan blue exclusion assay. T-2 toxin induced dose-dependent DNA damage in the absence of metabolic activation system with statistical significance.
And also, a dose-dependent significant increase of DNA damage of AFB_1 and FB_1 was observed in the presence of metabolic activation system.

포스터 발표

<책임연구자>
성명 : 류재천
주소 : 서울 성북구 하월곡동 39-1 KIST DCC
전화번호 : 958-5070 Fax 번호 : 958-5059