P-17

The Study of Mutation Spectrum in *lac I* Gene of Transgenic Big Blue® Cell Line Following Short-Term Exposure to 4-Nitroquinoline N-oxide

Ji-Youn Youn°, Kyung-Ran Kim, Kyung-Hea Cho*, and Jae-Chun Ryu

Toxicology Laboratory, Doping Control Center, KIST, P.O. Box 131, Cheongryang, Seoul, 130-650. *Department of Biology, Seoul Woman's University, San 228-32 Kongneung-dong Nowon-gu, Seoul, 139-744, Korea

Transgenic animal and cell line models which are recently developed in toxicology field combined with molecular biological technique, are powerful tools for studying of mutation *in vivo* and *in vitro,* respectively. The Big Blue mutagenesis assay system is one of the most widely used transgenic systems. Especially, for the study of direct acting mutagens, Big Blue cell line is very useful and powerful to evaluate mutagenicity because the mutation frequency and mutation spectrum showed no distinct differences between cell line and animal.

The Big Blue cell lines carry stably integrated copies of lambda shuttle vector containing *lac I* gene as a mutational target. These lambda shuttle vectors are useful for various mutagenesis related studies in eukaryotic system due to their ability to be exposed mutagen and then transfer a suitable target DNA sequence to a convenient organism for analysis.

We tried to assess the mutagenic effect of 4-NQO with Big Blue cell line. After the treatment of 4-NQO, genomic DNA was isolated and lambda shuttle vector was packaged by *in vitro* packaging and then these were plated on bacterial host in the presence of X-gal to screen mutation in the *lac I.* We determined MF as a ratio of blue plaques versus colorless plaques and now undergoing the mutation spectrum of 4-NQO in *lac I* gene sequence.

포스터 발표

<책임연구자>
성명 : 류재천
주소 : 서울 성북구 하월곡동 39-1 KIST DCC

전화번호 : 958-5080
FAX번호 : 958-5059