

FISH(fluorescence *in situ* hybridization)를 이용하여 분석한 크롬에 의해 유발된 염색체 이상

정해원 · 김수영 · 맹승희* · 이용묵* · 유일재*

서울대학교보건대학원, 산업안전보건연구원*

Detection of chromosomal rearrangements by chromium in human
lymphocyte using fluorescence in situ hybridization(FISH) with triple
combination of composite whole chromosome specific probe

Hai Won Chung, Su Young Kim, Sung Hee Maeng*,
Yong Mook Lee*, and Il Je Yu*

School of Public Health, Seoul National University

*Industrial health Research Institute

Abstract

Chromosome rearrangements induced in human lymphocyte after in vitro exposure to chromium were analysed by the use of fluorescence in situ hybridization(FISH) with triple combination of composite whole chromosome-specific probe for chromosome 1, 2 and 4. Chromosome aberrations was scored by the Protocol for Aberration Identification and Nomenclature Terminology(PAINT).

Stable translocation was the most frequent type of aberrations and dicentrics and insertions were also observed. Chromium treatment enhanced the frequencies of stable translocations and color junctions in a

dose-dependent manners, but no distinct increase of dicentrics and insertions was seen.

The ratio of the yields of translocation to the yields of dicentric varied between 13 to 27.

The presents results demonstrate fluorescence in situ hybridization(FISH) are useful for detecting chromosomal rearrangements induced by chromium.

key words : chromium, fluorescence *in situ* hybridization(FISH),
chromosome rearrangements