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**Gene Expression Profiling for Early Detection of Welder's
Pneumoconiosis with cDNA Microarray**

Kyung Taek Rim¹, Kun Koo Park², Jae Hyuck Sung¹, Yong Hyun Chung¹,
Jeong Hee Han¹, Il Je Yu¹

¹*Chemical Safety and Health Research Center, Occupational Safety & Health Research
Institute, KOSHA, Daejeon,* ²*Pharmacogenechips, Chuncheon, Korea*

Using the cDNAs that searched from rat fibrosis model, the microarray was manufactured for detection of welding fume exposure. In order to verify the propriety of this microarray, it was used the WBC or whole blood after purified and characterized from 20 control group and welding fume exposed group workers, alternatively. It was confirmed that the possibility of using a small amount of whole blood (about 300 $\mu\ell$) could use as a sample of microarray test, and established the protocol which does not extract the WBC from whole blood for microarray test. Also, it was discovered that the genetic markers available for microarray, it increases the accuracy of microarray test. This method will be applied practicably to detect the welder's pneumoconiosis. With using these genetic markers and microarray method, it could be more accurately diagnose the pneumoconiosis of welding fume exposed workers.

Keyword: welding fume, pnemoconiosis, DNA chip, diagnosis