EVALUATION OF PROTOTYPED KIT FOR DNA EXTRACTION ON DEGRADED SKELTAL REMAINS

K. Sekiguchi¹, N. Mizuno¹, H. Nakahara¹, K. Fujii¹, T. Kitayama¹, S. Miyasaka¹, Y. Ogawa¹, k. Kasai¹, H. Fukushima¹, <u>Y. Fukuma</u>², K. Nagasaki², H. Yoshida², Steven B. Lee^{2,3}

¹National Research Institute of Police Science, Japan

² Hitachi Software Engineering Co., Ltd., Japan

³ Forensic Science Program, Justice Studies Deptartment, San Jose State University, San Jose, CA

A new prototyped DNA extraction kit for degraded skeletal remains was designed and tested. Based on a method originally developed at Shinshu University in Japan (Fukushima *et al.* 2006), the new extraction kit has been utilized to extract DNA that yields complete STR profiles from degraded skeletal remains. The method significantly simplifies most skeletal extraction procedures as it does not require powdering. In addition to saving time, this new method reduces the possibility of contamination. Samples, such as teeth, remain physically intact after the extraction and therefore retain their morphological evidentiary value.

Both STR and mtDNA have been analyzed from DNA extracted from skeletal remains using the new extraction method. Furthermore, the new kits require no additional specialized equipment or instruments.

Fukushima, H. et al 2006. "HIGH - YIELD METHOD OF DNA EXTRACTION FROM OLD AND DEGRADED SAMPLES OF HUMAN SKELETAL REMAINS' " 17th International Symposium on Human Identification, Poster abstract 74 http://www.promega.com/geneticidproc/ussymp17proc/abstracts/Abstract74Fukushima.pdf