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DNA analysis after having washed bloodstains which attached to the clothes at crime scene

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The trace amount of blood that have been transferred from the person to the evidence by “touching”. These samples tend to have low amounts and poor quality of DNA. However, blood-stain and saliva-stain has relatively larger quantity of cells than epithelial cells. In any case, high level of collection and analyzing technique are required in analysis of a trace amount of sample.

Hence, we tried to DNA analysis from a cloth with old bloodstain after dry cleaning. Because the blood was invisible to the naked eye, we use a specific light device (Pollilight-Flare Plus, Hitachi) to identify the small spot of bloodstain. Then a small cut of cloth was submitted for DNA

extraction after processing by anti-H lectin agglomeration with blood cells. DNA extraction were done by a Maxwell 16 (Promega). DNA was typed using the PowerPlex® Fusion System (PPF; Promega). In addition, short-range PCR (D-loop) was performed to generate a DNA library spanning the human mitochondrial genome (Nextera DNA Library Prep Kit, Illumina).

After comparing the reference sample (slayer origin), an almost complete profile was identical to bloodstain. Furthermore, we found complete matching of mtDNA sequence between bloodstain and slayer’s.

Biography

Katsuya Honda has completed his PhD at the age of 30 years from University of Tsukuba, and then, nominated as Associated Professor of Osaka University School of Medicine. Subsequently, he was appointed as the Director of Department of Legal medicine, University of Tsukuba, Japan from 2001. He has published more than 200 papers in the field of DNA analysis. He succeeded in the DNA analysis of the serious affair called Ashikaga case (1990) and the Hakamada case (1966) and proved their false accusation.

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