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### **Identification of N-Acetyltransferase 2 and CYP2C19 Genotypes for Hair, Buccal Cell Swabs, or Fingernails Compared with Blood.**

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Genotyping of polymorphic drug metabolizing enzymes may be useful to estimate the blood concentration, efficacy, and toxicity of drugs before administration. Blood samples are most generally used for genotyping; however, sampling is invasive and complicated by handling and transport. Therefore, the authors developed genotyping methods using nonblood specimens, and then each genotype was compared with that from blood. Healthy Japanese volunteers provided hairs (n = 50), buccal cell swabs (n = 50), and fingernails (n = 30) for N-acetyltransferase 2 and CYP2C19 genotyping. Recovery of genomic DNA from each nonblood specimen was lower than that from 0.5 mL blood. Using a modification of the DNA extraction and polymerase chain reaction amplification method, genotypes were diagnosed without failure, even for those with very low levels of DNA. Both genotypes from these specimens completely matched the genotypes from the blood of the same subject. These nonblood specimens can be convenient, accessible, and economical alternatives to blood as a source of DNA for genotyping.