

Clinical Genetics

AB079. Use of saliva and salivary DNA for comprehensive genotyping based on RealFast and StripAssays

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Background: Nucleic acids extracted from blood are the most common type of sample used in molecular genetic diagnostics. Blood is an abundant and reliable source of specimen, yielding high amounts of DNA and RNA with homogenous quality. Since drawing blood is an invasive procedure, and DNA extraction is time consuming and requires special equipment, salivary DNA and saliva direct-to-PCR represent promising alternative approaches in clinical diagnostics. Saliva is considered to represent an ultra-filtrate of blood, and thus contains an abundance of a huge variety of diagnostically valuable molecules. Apart from being known to contain polymerase chain reaction

(PCR) inhibitors, saliva is mucous and inhomogeneous and thus often difficult to handle. Moreover, its human DNA content is by far lower compared to whole blood.

Methods: Here, we examined blood-derived DNA, salivary DNA and saliva direct-to-PCR to carry out reliable genotyping based on single-plex RealFast and multi-plex StripAssays for up to 22 mutations.

Results: Our data suggest that saliva collected and stored in dedicated devices is not only suitable to be used for isolating ample amounts of high-quality DNA, but also for direct-to-PCR approaches towards comprehensive molecular diagnostics.

Conclusions: Saliva is suitable source for comprehensive genotyping and can be used as a substitute for blood-derived DNA.

Keywords: Saliva; salivary DNA; genotyping

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