

Figure 1: HLA-A full length PCR (3.2 kb) of 25 ng DNA from self-collection procedures.
Key: The 5 staff samples are named A to E; wells 2 → 6 Oragene saliva, wells 8 → 12 cytology brushes and wells 14 → 18 swabs. Wells 1, 7, 13 and 19 are loaded with Hyperladder I (Bioline).

Anthony Nolan also compared the DNA extracted from saliva kits against that from blood samples and found that the quality was just as good for tissue typing purposes. They found that unlike buccal swabs, saliva collection with Oragene gave long, intact strands of DNA which are better suited to a variety of tissue typing methods. This means that they are able to test samples to a higher resolution - i.e., a more detailed level of typing - which is crucial when finding the best possible donor match for a patient.

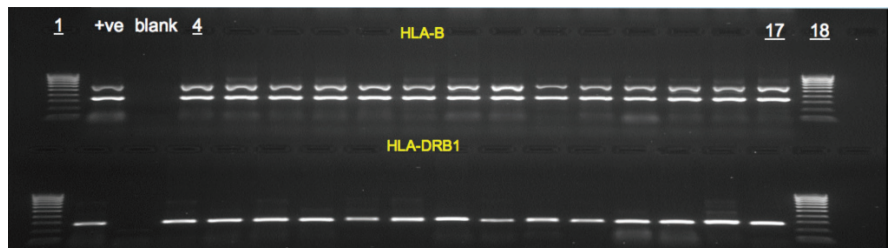


Figure 2: Examples of products from amplification of saliva DNA with Class I and II LABType PCR protocols.
Key: Upper row - HLA-B PCR; wells 1 and 18 Hyperladder IV (Bioline), well 2 +ve control DNA, well 3 blank reaction and wells 4 → 17 DNA from 14 new registry donors.
 Lower row - HLA-DRB1 PCR, layout as above.

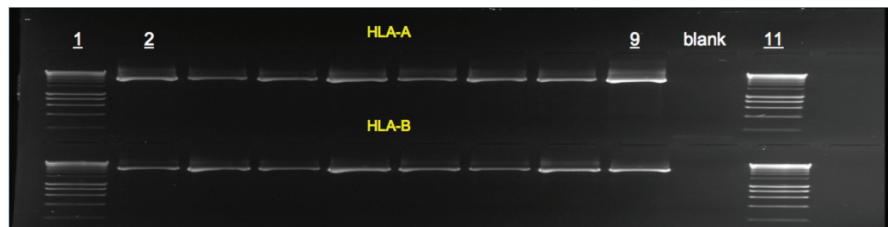


Figure 3: Examples of 2.9 kb products from amplification of saliva DNA after PCR of Int. 1 → 3'UTR for Class I SBT.
Key: Upper row - HLA-A PCR; wells 1 and 11 Hyperladder I (Bioline), well 2 → 9 products from 8 new registry donors and well 10 blank reaction.
 Lower row - HLA-B PCR, layout as above.



“We’re really excited about the switch to saliva testing. Ultimately, this is about saving more lives. Anthony Nolan provides two potentially lifesaving transplants every day, but there is an equal number that we can’t currently help. We urgently need to increase the number of people on our register, and saliva testing will help us do that much more quickly and effectively.”

*Henny Braund
Chief Executive of Anthony Nolan*

Why Oragene

The laboratory results confirm that Oragene provides the high quality DNA needed by Anthony Nolan. Using saliva has many practical advantages for Anthony Nolan but the main one is that Oragene kits are designed for self-collection – i.e., a person can use the kit by themselves and send it back via the standard postal system for testing.

Another important advantage is that the reagent in the saliva kits preserves the cells so they can be kept at ambient temperature for up to two months. This is much longer than blood which requires cold chain logistics and must be processed within a couple of days. Unlike swabs, the plastic tube design provides a liquid sample that is compatible with existing lab processing and decreases manual manipulation of samples, thus improving lab efficiency.

Results

Oragene has allowed a problem-free transition from blood collection to saliva as a source of material for HLA typing. It offers the self-collection benefits of buccal swabs in combination with the advantageous liquid handling and DNA extract qualities possible with blood. In addition, the extended sample viability alleviates the concerns regarding transit and laboratory delays experienced with blood. The use of Oragene also allows the charity to benefit from the reduced costs involved in infrastructure and staffing donor recruitment events. They will be able to use more volunteers (instead of trained professionals) to support donor recruitment because of the simplified process.

In the pilot phase of the program, Anthony Nolan successfully added over 5,000 new donors to the register. The feedback from new donors joining the register has been very positive with no reported problems using the new kits. The Oragene saliva kits enable Anthony Nolan to recruit many more people to the register much more quickly and efficiently and because they can extract high quality DNA for tissue typing, they will continue to provide a world-leading service to transplant centres.

Oragene®-DNA is not available for sale in the United States.
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