# DNA GENOTEK

### **Case study**



## Oragene®•DNA enables study aimed at identifying host correlates of protection against TB

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#### **Study overview**

The aim of the South African Tuberculosis Vaccine Initiative (SATVI) of the University of Cape Town is to develop novel tuberculosis vaccination strategies. Their focus is on the clinical side of tuberculosis vaccine development. They therefore embark on clinical, epidemiological, immunological and genetic research to answer critical questions in TB vaccinology.

A large focus of SATVI's research is aimed at identifying host correlates of risk of TB disease, following BCG vaccination. These studies include looking at genetic differences between infants who are either protected or not protected against TB, following BCG vaccination. They are also interested in determining if there is a genetic disposition to susceptibility to TB. They are collecting DNA from both infants and their parents, and will conduct target gene and whole genome screening to delineate polymorphisms that associate with protection.

Over the course of the 4 year study, approximately 6,000 samples will be collected.

#### **Main challenges**

Maximizing compliance of potential study participants is a major challenge. They identify potential participants either at clinics or through home visits. Subsequently, an appointment is scheduled with the whole family where the DNA samples are collected for isolation.

The study began with blood collection for DNA isolation from the participants. However, they encountered misbleeds and study withdrawals from some participants, mostly because of concerns or fear of blood collection. A large percentage of the potential study participants are children and they felt a non-invasive method of DNA collection would be very beneficial.





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Superior samples Proven performance

"We believe the Oragene•DNA system is the most practical for collecting DNA in this environment. The Oragene•DNA kits are cheaper, less invasive and thus more appropriate in our setting."

Muki S. Shey PhD Student



"Donors who have provided blood samples for other studies and who have now used the Oragene-DNA kits say they much prefer the non-invasive method of collection with Oragene. We would definitely recommend the kit to anyone who wants an easy and reliable method of collecting samples for DNA isolation."

Muki S. Shey PhD Student

#### Why Oragene•DNA

The SATVI researchers decided to use Oragene®•DNA for the sample collection because it offered them a non-invasive, easy-to-use and reliable method. In addition, the Oragene•DNA kits were cheaper and more appropriate for collecting DNA samples in both clinic environments and home settings.

#### Results

The researchers were able to achieve an outstanding 95% compliance rate with the non-invasive saliva collection method available with the Oragene•DNA kits. Overall, participant drop-out has been reduced with the non-invasive collection process. In addition, they are achieving very high quantity of DNA with an average of 200 ng/ $\mu$ L of DNA from adult saliva and 90 ng/uL from infants. The quality is also very high with an A<sub>260</sub>/A<sub>280</sub> of 1.7 to 1.9. Oragene•DNA has performed reliably on their downstream processes – generating equivalent results to the blood kits used previously.

Overall, the use of Oragene•DNA kits has resulted in cost savings. The Oragene•DNA kits were less expensive than the isolation kits used to isolate DNA from blood. SATVI was also able to eliminate the cost of recollecting blood for phlebotomies that failed on the first attempt.





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