

## Case study

### Generation Scotland overcomes recruitment challenge with Oragene®•DNA

Lee Murphy

Wellcome Trust Clinical Research Facility, Western General Hospital, Edinburgh, Scotland

#### Study overview

Generation Scotland is creating an ethically sound, family and population-based resource to identify the genetic basis of common complex diseases ([www.generationscotland.org](http://www.generationscotland.org)). The Generation Scotland Scottish Family Health Study is a large-scale, long-term project, which aims to find out more about common illnesses, such as heart disease and stroke. It is known that heredity plays a role in these diseases. By collecting medical and genetic information from families, and by following their health over the coming years, Generation Scotland hopes to find out which lifestyle and inherited factors are connected with higher or lower risk of these illnesses.



Launched in February 2006, Generation Scotland is a partnership between the Scottish people, the NHS in Scotland and the four Scottish University Medical Schools (Aberdeen, Dundee, Edinburgh and Glasgow). Participants attend clinics where they undergo a battery of phenotyping tests and provide biological samples (blood, plasma, urine) for biochemical analysis and future research use. There is also the opportunity to enhance the phenotype through NHS medical record linkage, which is designed to create a research platform for emerging technologies to link health information and genetic research. Generation Scotland provides managed access to this valuable resource to clinical researchers for downstream genomic, biomarker and drug target discovery projects.

#### Main challenges

The Generation Scotland Scottish Family Health Study aims to collect phenotype information and blood for biochemical analysis and DNA isolation from 25,000 people living in Scotland. As the name suggests, the Scottish Family Health Study is based on families, so they need at least one sibling and preferably other family members (aged 18 or over) as well. The inclusion of as many family members as possible, especially from large families, will increase the power of the study. However, for a variety of reasons, not all participants can make a clinic appointment.



“The Oragene kits provide an essential supplement to the Generation Scotland project. The easy-to-use kits allow high quality DNA to be collected and isolated. The DNA information generated as a result of Oragene collections along with the other biological material and associated data are now in increasing demand from clinical researchers.”

*Lee Murphy  
Wellcome Trust Clinical Research Facility,  
Western General Hospital,  
Edinburgh, Scotland*

Collecting DNA samples from relatives who live in geographically dispersed locations may not be possible within a clinic setting. Others may be inconvenienced by a visit to the clinic. To overcome this barrier to compliance and to maximize the number of study participants, Oragene®•DNA kits are mailed to such participants, with instructions for self-collection.

### Why Oragene•DNA

The Oragene kits are an easy-to-use and reliable method of sample collection. They are non-invasive, stable at ambient temperature and can be posted to the participants and back to the laboratory using regular mail.

### Results

To date, the Generation Scotland Scottish Family Health Study has collected over 15,000 samples, of which over 1,000 samples are from self-collected Oragene•DNA kits. By the time this study is complete, they expect to have collected at least 3,000 samples with Oragene.

For samples for which QC data is available, the average DNA yield from Oragene kits (n = 1,182) is 180 ng/μL with 4% of samples yielding <10 ng/μL. Most of these samples were attributed to non-compliance with the user instructions (e.g., low saliva volume).

The Oragene kits provide an essential supplement to the Generation Scotland project. The easy-to-use kits allow high quality DNA to be collected and isolated. The DNA information generated as a result of Oragene collections along with the other biological material and associated data are now in increasing demand from clinical researchers to help understand the genetic basis of common diseases and response to treatments.

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

Oragene®•DISCOVER is for research use only, not for use in diagnostic procedures.

\*Oragene is a registered trademark of DNA Genotek Inc. All other brands and names contained herein are the property of their respective owners.

*Superior samples • Proven performance*

MK-00020 Issue 2/2011-12  
© 2011 DNA Genotek Inc., a subsidiary of OraSure Technologies, Inc., all rights reserved.

**DNAgenotek**



[www.dnagenotek.com](http://www.dnagenotek.com)