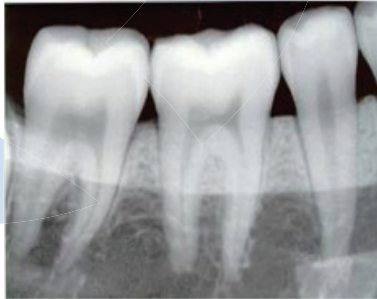


## Case study



“My experience using the Oragene collection product is only positive. One of the reasons why we decided to use the Oragene kits was due to simplicity of being able to mail the samples to different parts of the country since we collaborate with several clinics. The way we decided to perform the study would not have been possible without the Oragene collection kits.”

*Dr. Sofia Louca*

### Oragene®/saliva collection kits enable multi-site dental mailing study in Europe

Dr. Sofia Louca  
Department of Dental Medicine, Karolinska Institutet, Sweden

#### Overview

Temporomandibular joint dysfunction (TMD) is an umbrella term covering pain and dysfunction of the muscles of mastication and the temporomandibular joints. The condition is prevalent in approximately 10–15% of the adult population. TMD is frequently accompanied by restricted mouth opening, pain upon chewing, pain referral and headache, thus reducing the patient’s quality of life. Although TMD does not obviously run in families like a genetic disease, it has been suggested that a genetic predisposition could exist.

Through multiple collaborative studies in Sweden, Dr. Sofia Louca and her research team at the Karolinska Institutet are investigating if serotonin (5-HT<sub>3</sub>) genetic polymorphisms contribute to pain perception in TMD patients and whether the drug granisetron (5-HT<sub>3</sub> antagonist) is effective in relieving pain from TMD.

#### Main challenges

The main challenge for the study surrounded ease of sample collection. Blood collection to obtain DNA samples would create a challenge in recruiting enough study participants to visit a central clinic and would result in logistical complexity. Blood draws are also invasive and require a phlebotomist to administer. As a result, volunteer donors were hesitant or unwilling to come into a clinic for the procedure. Furthermore, once the blood samples were collected, they had to be shipped to participating clinics throughout Sweden for processing, requiring extensive packaging and costly express postage.

“ I have listed some of the positive points and advantages of using the Oragene collection kits:

- Great service and feed-back from skilled and experienced staff
- Easy and quick to use the products
- Facilitates the data collection
- No complications since it is a non-invasive collection
- Easy to store
- The Oragene kits can be posted to patients
- The product is of high quality”



“I am very happy that I started using the Oragene collection kits since they enable my research in every way. I strongly recommend others to start using the Oragene collection kits! It makes your research so much easier!”

*Dr. Sofia Louca  
Department of Dental Medicine  
Karolinska Institutet, Sweden*

## Why Oragene/saliva collection kits

Dr. Louca wanted a non-invasive DNA collection method to increase donor compliance while delivering high-quality DNA for downstream genetic analysis. She also wanted a sample method that could easily and cost-effectively ship through the mail to their collaborators without jeopardizing DNA integrity.

The Oragene/saliva collection kit was a clear solution that met both requirements for easy self-collection of high-quality DNA and sample stability for standard postal shipping. These benefits have enabled a highly efficient sample management solution for their multi-site collaborative studies.

Dr. Louca and her research group have mailed the Oragene/saliva collection kits to donors directly for self-collection in the convenience of their own home which has greatly facilitated their study recruitment. As the Oragene/saliva collection kits stabilize DNA for years at room temperature within a convenient standard-size tube, shipping collected samples to the processing laboratories is easy and cost-effective via standard post. Furthermore, sample storage and extraction within the lab is hassle free, offering a more flexible and efficient workflow. Lastly, as Oragene/saliva collection kits are fully supported from collection to analysis by an experienced technical service team, Dr. Louca has relied on DNA Genotek's expert support to optimize DNA extraction and yield high-quality DNA.

## Results

Sixty healthy subjects (30 women and 30 men) participated in the study.

All Oragene/saliva collection kits that have been processed are of sufficient yield and quality to perform reliably downstream on the Taqman RT-PCR array. Further genomic analysis is ongoing with respect to the genetic component of pain perception of the participants.

For medication purposes, Dr. Louca and her team has shown through this research endeavor that blocking of the 5-HT<sub>3</sub> receptor with granisetron decreased experimental pain induced by intramuscular injection of hypertonic saline in healthy subjects and thus may serve as a potential analgesic drug for myalgic conditions. Further studies are needed to explore the effect of granisetron in chronic myalgia.

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

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

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*Superior samples • Proven performance*

MK-00450 Issue 1/2015-02  
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