

# Buccal Cell Collection

**T**he role of genetics in health and disease is one of the most rapidly expanding areas of scientific inquiry today. That's why the Agricultural Health Study has included the collection of genetic material by using a new procedure: the buccal cell collection.

## What are buccal cells?

Buccal cells are the cells from the inner lining of the mouth, or cheek. These cells are routinely shed and replaced by new cells. As the old cells die, they accumulate in the saliva in the mouth and can easily be collected by a simple procedure using mouthwash.

## Are you a participant in the Agricultural Health Study?

### If you are...

- and if you have already been interviewed by telephone about your farming, health, and diet
- but have not yet provided a buccal cell sample

### It's not too late to participate!

Please call 1-800-217-1954 so that the Agricultural Health Study can mail a buccal cell kit to you. The buccal cell sample is easy to do and just takes a few minutes of your time.

Your participation will help the Agricultural Health Study get representative results and would be greatly appreciated.

Thank you for calling...

**We need your help!**

## Why collect buccal cells?

Collecting buccal cells enables researchers to better understand the way people process substances that affect cancer and other diseases and to determine why some people who are exposed to certain substances develop diseases, whereas others exposed to the same substances do not. The material in the buccal cell samples, combined with information on occupational, environmental, and dietary factors, allows researchers to get a more complete assessment of what is affecting the health of the agricultural population.

## How are the cells collected?

Participants who agree to do the buccal cell collection are mailed a kit that includes everything they will need for this simple "swish and spit" procedure. Each participant is asked to swish one tablespoon of Scope® mouthwash in his or her mouth and then spit it into the container provided. This one-time procedure takes approximately 5 minutes to complete. To prevent contamination of the sample, the study suggests that others not handle the supplies. The sample can be collected at home and mailed with the signed consent form to the laboratory in a preposted, addressed envelope.



[www.aghealth.org](http://www.aghealth.org)

### Iowa Office:

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**1-800-217-1954**

### Collaborating Partners:

Iowa State University Extension  
Iowa Department of Agriculture  
and Land Stewardship

### How will the buccal cell samples be used?

The buccal cell sample is being collected for use in future research. The exact studies that will be performed are currently not known but are likely to include the following:

- 1) differences in genes that may be related to how people process disease-causing substances;
- 2) how the effects of diet, lifestyle, environment, race and ethnicity, age, and other factors may be related to these genes.

To protect the confidentiality of these genetic tests, there are multiple safeguards. Collection bottles are identified by numbers—not by names. All information is to be kept confidential to the extent provided by law. Names of participants will not be used in any reports. The study results are reported in statistical summary form only.

### What about research results?

The Agricultural Health Study does not plan to inform participants of their individual results. If the research yields findings that are of possible medical benefit, the study will publish findings that will be provided to participants.

Even though immediate personal benefits are not expected, the knowledge gained from this research may eventually benefit not only the farming community but also people worldwide. By comparing samples from participants who have diseases with samples from those who are healthy, the Agricultural Health Study may be able to identify factors that prevent disease and promote good health.

### How many participants have provided samples?

So far, approximately 27,000 buccal cell samples have been collected from participants in the Agricultural Health Study—mainly farmers in Iowa and North Carolina who are pesticide applicators and their spouses. The study will continue to collect samples as additional Agricultural Health Study participants are contacted for the 5-year follow-up interviews. Only participants of the Agricultural Health Study can take part, and no new participants may be added to the study. This important and valuable contribution is made possible only through the willingness of Agricultural Health Study participants in Iowa and North Carolina.

More specifics regarding study findings are available through our website at: [www.aghealth.org](http://www.aghealth.org).

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*The buccal cell collection  
is one of the most important parts  
of the Agricultural Health Study!*

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**The Agricultural Health Study** is a long-term study to investigate the effects of environmental, occupational, dietary, and genetic factors on the health of the agricultural population. This study will provide information that agricultural workers can use in making decisions about their health and the health of their families. The study is conducted in Iowa by the Department of Epidemiology at the University of Iowa and in North Carolina by Battelle CPHRE. The study is directed by the National Cancer Institute, the National Institute of Environmental Health, and the US Environmental Protection Agency.

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