IRB USE ONLY
Approval Date: July 10, 2013
Expiration Date: July 10, 2014

Iranian Genome Project

For questions about the study, contact: Russ Altman, 318 Campus Drive S172, MC: 5444, Stanford, CA 94305-5444. Tel: (650) 725-3394 Fax: (650) 723-8544 Email: russ.altman@stanford.edu

DESCRIPTION:

We invite you to be part of the **Iranian Genome Project**, which will develop an anonymous research resource that researchers around the world will use. This resource will be a catalog of human genetic variation, and will include both: (1) blood samples and material taken from the blood samples; and (2) data from the study of the samples, which will be kept on scientific databases available over the Internet. The resource will be used in future studies related to health and disease.

Researchers at several academic institutions are working together to develop this resource, led by Russ Altman at Stanford University. Several agencies are sponsoring the project, including the PARSA community foundation (http://www.parsacf.org). You can learn more information about the organization of this project at irangenes.com. The National Institutes of Health are providing some financial support for the facility and staff where part or all of the study is taking place.

This project will involve 100-200 men and women whose ancestors are from various parts of Iran. In order to take part, you must:

- be over 18 years of age
- not be pregnant
- be over 110 lbs or 50 kg
- be mentally sound and in good health
- be willing to give a sample of blood so that researchers can read out all of your genetic information from it (a process called “sequencing”);
- be willing to have all of your genetic information (without your name or other traditional identifying information, such as address, birth date, or [U.S. only] Social Security number) put in scientific databases available on the Internet;

We will not collect your name or any medical information with your blood samples. Researchers who study the material and data from the samples will be told only the sex of each donor and the ethnic background of the donor. Samples will be given an identification number, but this number will not be connected to your identity in any way. The Stanford Clinical and Translational Research Unit (CTRU) will ask for your birthdate, age, gender, and ethnicity (which will be listed as Caucasian for Iranians). This information will not be tied to your name or your sample. You will not have a medical record created at Stanford, and your participation in this study will not be noted in any existing medical records.

If you think you might want to be part of this project, please read the rest of this form and take as much time as you need to ask questions. **The decision about whether to participate or not is completely up to you.** If you decide not to sign this form, it will not affect any benefits to which you are entitled. Individuals can opt out of the study at any point prior to giving the sample.

PROCEDURES:

If you give your consent to participate, we will draw about 10ml-12ml (1 spoon-full) of blood from your arm using a needle. This blood will be assigned a unique study number and labeled with the ethnic group and gender. This study number will not be linked to you in any way. The only identification on the blood samples that will be available to researchers will be your ethnic group and your gender. After your blood has been collected, your survey results will be destroyed and in no way accessible to any of the researchers.

We will send the sample to the Illumina, Inc to be processed and stored. Illumina, Inc. is located in Hayward and San Diego, California. **The only information we will include with the sample is the name of the ethnic or geographic group you come from (or that your ancestors came from), and your sex.**

Illumina, Inc. will:

- Extract DNA from the cells in your blood sample and fully sequence the sample, by reading all of the genetic information in it.

Over the next 1-3 years, these project researchers will:

- put all the data in scientific databases on the Internet (accessible through irangenes.com and hosted securely by pharmgkb.org) - other scientists will be able to access the anonymized data by filling out a form and agreeing not redistribute the genetic data.
- study the genetic variation data from all the samples; and
- compare individual samples and samples from different ethnic or geographic groups.

The genetic data will be accessible by other scientists and researchers, so that they can be used in many future studies. These future researchers may include researchers in universities, hospitals, non-profit groups, companies, and government laboratories. Such researchers, just like the researchers in this project, will have to follow all the laws and guidelines that apply to biomedical research.

Future researchers may use the samples to study many other questions, such as how genes and genetic variants affect the way genes work and the products that genes make (these are called “gene expression” or “proteomic” studies). Future researchers may also use the scientific databases to study such questions as:

- the biology of DNA;
- how new variations arise;
- how the process of evolution works;
- the composition and size of human groups; and
- how people from different parts of the world are related to each other.

People who do identity testing, such as for paternity testing or law enforcement, may use the scientific databases to do general research about patterns of human genetic variation. Some of the results of that research, and of other future research using the samples or the scientific databases, may also be put in open access scientific databases on the Internet. However, it will be hard for anyone to find out anything about you personally from any of this research because the samples and the scientific databases will not

include anybody's name or other traditional identifying information (such as address, birth date, or [U.S. only] Social Security number).

Any future researcher who wants to study your anonymized data will be required to apply to the Russ Altman Lab with a written "Statement of Research Intent." The Altman lab will review each Statement of Research Intent to make sure that the purpose for which the data will be used is consistent with this consent form.

Tissue Sampling for Future Research

Research using tissues is an important way to try to understand human disease. You have been given this information because the investigators want to include your tissues in a research project and because they want to save the samples for future research. There are several things you should know before allowing your tissues to be studied.

Your tissues will be stored at Illumina, Inc. Because your samples will not be linked to your name after they are stored, you cannot withdraw your consent to the use of the samples after they are taken.

The results of the study of your samples will be used for research purposes only and you will not be told the results of the tests. Future researchers may use the samples to study many other questions, such as how genes and genetic variants affect the way genes work and the products that genes make (these are called "gene expression" or "proteomic" studies).

Any tissues you have donated which are used in research may result in new products, tests or discoveries. In some instances, these may have potential commercial value and may be developed and owned by the Investigators, Stanford University and/or others. However, donors of tissues do not retain any property rights to the materials. Therefore, you would not share in any financial benefits from these products, tests or discoveries.

_____ I consent to my samples being saved for future research

_____ I do not consent to my samples being saved for future research

Tissue Sampling for Genetic Testing

As part of the analysis on your samples, the investigators will do genetic testing. Genetic research is research that studies genes, including gene characteristics and gene versions that are transmitted by parents to children. Genetic research may include looking at information, such as personal appearance and biochemistry, gene sequences, genetic landmarks, individual and family medical histories, reactions to medications and responses to treatment. Genetic research raises certain questions about informing you of any results. Possible risks of knowing results include: anxiety; other psychological distress; and the possibility of insurance and job discrimination. A possible risk of not knowing includes being unaware of the need for treatment. These risks can change depending on the results of the research and whether there is a treatment or cure for a particular disease.

Sometimes patients have been required to furnish information from genetic testing for health insurance, life insurance, and/or a job. A Federal law, the Genetic Information Nondiscrimination Act of 2008

(GINA), generally makes it illegal for health insurance companies, group health plans, and employers with 15 or more employees to discriminate against you based on your genetic information.

The results of the study of your samples from this project will be used for research purposes only, and you will not be told the results of the tests.

RISKS AND BENEFITS: You may have some brief pain and bruising when we draw your blood. There is also a small chance that you may get an infection, have excess bleeding, become dizzy, or faint from the blood draw.

Although we will not collect any names or medical information, and we will take many measures to protect your privacy (see *below*), we will generate lots of genetic information about each person whose sample is studied. This information will be put in open access scientific databases, available on the Internet to researchers whose Statement of Research Intent aligns with the objectives outlined in this consent form and who agree not to redistribute the data. Although only experts will know how to interpret this information, there is a small chance that somebody could figure out how to connect you with the information from the study of the sample you give; the information could then be used to discriminate against you or your family members. Currently, we believe this could happen only if somebody knew that you had given a sample to be studied for this project and:

- got another sample from you, found an expert to test that sample, and then compared the genetic information from that test with the genetic information in the scientific databases;
- found an expert to compare the genetic information about you in the scientific databases with information known to have come from you (or from a family member) included in some other database developed by someone else for some other purpose; or
- found an expert to look in the scientific databases for a particular genetic variation known (or someday found) to be associated with a disease or trait that you have or carry, that others know about or can see, and that is very rare.

Any of these things would require that the person trying to link the information to you knew that you participated in the project. For this reason, to minimize these risks, you may wish to limit the number of people you tell about your participation.

As technology advances, there may be new ways of linking information back to you that we cannot foresee now. Also, we cannot always foresee the results of research, so new risks may come up in the future that we cannot predict now. We believe that the benefits of learning more about human genetic variation and how it relates to health and disease outweigh the current and potential future risks, but this is something that you must judge for yourself.

If you believe you have been injured because of this research, please contact Russ Altman, MD/Ph.D. at 650--725-0659.

The names of the ethnic or geographic groups the samples came from will be included with the samples and in the scientific databases. In future studies, researchers may find that certain genetic variations appear more often in people from your group than in people from other groups, and that these variations

are more common in people with a certain disease. This may make some people look down on your group unfairly.

Some people may use the information from the scientific databases, or from future studies using the scientific databases, to exaggerate differences between groups for prejudiced or other bad reasons. Others may use the information to downplay differences between groups, to say that all people's genes are about the same, so we don't need to respect the special concerns of different groups. Biology does not provide a reason for prejudice, but discrimination does exist.

We will work to make sure that the ethnic or geographic identity of your community is described as carefully as possible--in the sample collection, in the scientific databases, and in articles that project researchers write based on this research, but we cannot completely control how this information is described in publications that others write.

You probably will not benefit personally from giving a sample for this project because this kind of research usually takes a long time to produce medically useful results. However, your participation will help researchers around the world understand more about human genetic variation and how it relates to health and disease.

TIME INVOLVEMENT: Your participation in this experiment will take approximately 15-20 minutes to fill out the eligibility survey, 20 minutes for the blood draw, and any driving time to get to Stanford, where this study is occurring.

PAYMENTS: For your time, you will be compensated with a $50 giftcard.

Authorization to Use Your Health Information for Research Purposes

Because information about you and your health is personal and private, it generally cannot be used in this research study without your written authorization. If you sign this form, it will provide that authorization. The form is intended to inform you about how your health information will be used or disclosed in the study. Your information will only be used in accordance with this authorization form and the informed consent form and as required or allowed by law. Please read it carefully before signing it.

What is the purpose of this research study and how will my health information be utilized in the study?

Genes are the basic "instruction book" for the cells that make up our bodies, and are made out of DNA. The DNA of a person is more than 99% the same as the DNA of any other unrelated person. But no two people have exactly the same DNA except identical twins. Differences in DNA are called genetic variations. They explain some of the physical differences among people, and partly explain why some people get diseases like cancer, diabetes, asthma, and depression, while others do not. Such diseases may also be affected by factors like diet, exercise, smoking, and pollution in the environment, which makes it hard to figure out which genes affect the diseases.

Most genetic variations are found in people across the world. But there are differences among groups in how common some genetic variations are. **The purpose of the Iranian Genome Project is to find most of the genetic variations that exist in people from Iran. We will do this by studying the DNA in blood samples collected from many people whose ancestors were from various parts of Iran, and then putting all of this information in scientific databases on the Internet. We will not collect any information on your personal health, and you will not be identified in this database.** These scientific databases will be kept for a long time, and many future researchers around the world will use them to help find genes and genetic variants related to health and disease.

The scientific databases we develop for this project will not include any medical information, but they will still be useful to help future researchers learn about

health and disease. In the future, for a disease (such as diabetes), researchers will study different sets of samples—some from people who have the disease and some from people who do not, and look for areas in the DNA where the patterns of variation differ between the two groups. This will give them a clue that those areas might contain genes that affect the disease. They will then use the scientific databases we develop for this project to look at the genetic variants in those regions, to help figure out which genes might affect the disease. They can then study how the genes work and eventually find better ways to prevent, diagnose, and treat the disease. Researchers will also use the scientific databases to learn more about how different people respond to different drugs, and about how traits (like long life), or behaviors (like addiction), differ between people. Other future studies that use scientific databases and the samples themselves will help researchers understand even more about human genetic variation and other important biological questions.

This is a research project, not medical care. You should see your health care provider for any scheduled visits or if you have a health problem or medical question.

Do I have to sign this authorization form?
You do not have to sign this authorization form. But if you do not, you will not be able to participate in this research study.

If I sign, can I revoke it or withdraw from the research later?
Because we will not collect any names with the samples, we will not know the identity of the person who gave any particular sample. For this reason, once you give a sample, it will be impractical for us to withdraw it from the project. Also, once the sample has been studied, you cannot take the information about the sample out of the scientific databases. Because more samples will be collected than used, and samples will have no identifying information other than gender and ethnic group, it will be impossible to determine who the sample belongs to.

What Personal Information Will Be Used or Disclosed?
Your email and phone number, as well as information regarding your, your parents' and grandparents' ethnic group, religious affiliation, and spoken languages, which are collected during the Iranian Genome Eligibility Survey will only be used by the Protocol Director and the Principal Investigator to contact you if you are eligible for the study. If you are not eligible, your information will

be destroyed. If you choose not to participate, your information will be destroyed. If you do choose to participate, your phone and email will be used to contact you to arrange a visit to have your sample drawn. After all the samples are collected, this information will be destroyed, and you will not be contacted again. The only identifiers on your blood sample will be your ethnic group and your gender.

We will protect your privacy in several ways:

- We will store your signed consent form in a locked file with the principal investigator Russ Altman, MD/Ph.D.. A copy will also be kept by the Stanford Clinical and Translational Research Unit in a locked file, accessible only to the Lab manager, Ben Varasteh, JD/MBA. This consent will not be tied to your sample in any way.
- We will not collect your name or any other identifying information (such as address, or [U.S. only] Social Security number) or give your sample a code number that could identify you.
- The Stanford Clinical and Translational Research Unit (CTRU) will not create a medical file for your visit and your visit will not be recorded in any existing medical file you may have at Stanford. The only information the CTRU will require is your birthdate, age, gender, and ethnicity (Caucasian for Iranians). This information will not be tied to your name and gender and is kept by the CTRU to record anonymous visits.
- We will collect more samples than we will use, so that nobody—not even you or us—will know for sure whether your sample was used or if any of the information in the scientific databases came from your sample. Samples that are not used and are not authorized for future use will be destroyed.

Because of these measures, it will be very hard for anyone who looks at any of the scientific databases to know which information came from you, or even that any information in the scientific databases came from you.

Who May Use or Disclose the Information?

No health information will be used or disclosed during this study. However, the genetic information (identified only by ethnicity and gender) will be available to scientists whose State of Research Intent are in agreement with the guidelines outlined in this consent. Russ Altman, MD/Ph.D. will assess each request.

While no health information will be readily accessible, it is possible that in the future, as technology advances, there may be new ways of linking information back to you that we cannot foresee now.

The Stanford Clinical and Translational Research Unit (CTRU) will not create a medical file for your visit and your visit will not be recorded in any existing medical file you may have at Stanford. The only information the CTRU will require is your birthdate, age, gender, and ethnicity (Caucasian for Iranians). This information will not be tied to your name and gender and is kept by the CTRU to record anonymous visits.

Who May Receive or Use the Information?

No medical information will be used or disclosed. Only genetic data labeled with gender and ethnic group (and completely de-identified) will be used. Scientists who submit a statement of research intent, the research consultants Pardis Sabeti, MD/Ph.D. and Mostafa Ronaghi, Ph.D., and research staff will only have access to the de-identified data and will not know who participated in the study.

When will my authorization expire?

Your authorization for the use and/or disclosure of your health information will expire on December 31, 2050.

_____ _____

Signature of Participant Date

PARTICIPANT'S RIGHTS: If you have read this form and have decided to participate in this project, please understand your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time prior to giving a sample without penalty or loss of benefits to which you are otherwise entitled. Your decision whether or not to participate in this study will not affect your medical care. Your individual privacy will be maintained in all published and written data resulting from the study.

CONTACT INFORMATION:

Questions, Concerns, or Complaints: If you have any questions, concerns or complaints about this research study, its procedures, risks and benefits, or alternative courses of treatment, you should ask Dr.

Russ Altman MD/Ph.D., (650) 725-3394. You should also contact her at any time if you feel you have been hurt by being a part of this study.

Independent Contact: If you are not satisfied with how this study is being conducted, or if you have any concerns, complaints, or general questions about the research or your rights as a participant, please contact the Stanford Institutional Review Board (IRB) to speak to someone independent of the research team at (650)-723-5244 or toll free at 1-866-680-2906. You can also write to the Stanford IRB, Stanford University, MC 5579, Palo Alto, CA 94304.

EXPERIMENTAL SUBJECTS BILL OF RIGHTS: As a research participant you have the following rights. These rights include but are not limited to the participant's right to:

- be informed of the nature and purpose of the experiment;
- be given an explanation of the procedures to be followed in the medical experiment, and any drug or device to be utilized;
- be given a description of any attendant discomforts and risks reasonably to be expected;
- be given an explanation of any benefits to the subject reasonably to be expected, if applicable;
- be given a disclosure of any appropriate alternatives, drugs or devices that might be advantageous to the subject, their relative risks and benefits;
- be informed of the avenues of medical treatment, if any available to the subject after the experiment if complications should arise;
- be given an opportunity to ask questions concerning the experiment or the procedures involved;
- be instructed that consent to participate in the medical experiment may be withdrawn at any time and the subject may discontinue participation without prejudice;
- be given a copy of the signed and dated consent form; and
- be given the opportunity to decide to consent or not to consent to a medical experiment without the intervention of any element of force, fraud, deceit, duress, coercion or undue influence on the subject's decision.

The extra copy of this consent form is for you to keep.

Please read the information below, think about your choice, and sign if you agree. I agree:

- to give a blood sample;
- to have the DNA used in the Iranian Genome Project
- to have the entire genetic code from the sample deposited in scientific databases on the Internet which is accessible to eligible scientists;
- that the data from my sample may be studied by companies, and that if any commercially valuable products result from these studies, I will not receive any profits; and
- that once the sample has been studied, I cannot take the information about the sample out of the scientific databases because it will be impossible to identify which sample belongs to me.

I have read or listened to the information, I have asked any questions I had, and all my questions were answered. I know that giving a sample is my choice.

_____ _____

Signature of Adult Participant Date

Person Obtaining Consent

I attest that the requirements for informed consent for the medical research project described in this form have been satisfied – that the subject has been provided with the Experimental Subject's Bill of Rights, if appropriate, that I have discussed the research project with the subject and explained to him or her in non-technical terms all of the information contained in this informed consent form, including any risks and adverse reactions that may reasonably be expected to occur. I further certify that I encouraged the subject to ask questions and that all questions asked were answered.

_____ _____

Signature of Person Obtaining Consent Date