Informed Consent Form

Human Immune Responses to Yellow Fever Vaccination

IRB Approval Date: May 31, 2024

NCT00694655

You Are Being Asked to Be in a Research Study
Concise presentation of key concepts

You are being asked to be in a research study. A research study is designed to answer a scientific question. If you agree to be in the study, you will be one of 250 people who are being studied at Emory.

Why is this study being done?
This study is being done to answer the question: How does the short-term and long-term human immune system respond to the Yellow Fever Vaccine?

Do you have to be in the study?
It is your decision to be part of this research study. You do not have to be in it. Before you make your decision, you should take time to learn about the study.

What do I have to do if I choose to participate in this study?
If you are eligible and want to be part of the study, you will participate for up to 12 months (10 study visits). The researchers will ask you to do the following: receive the Yellow Fever Vaccine and have blood samples taken. ALL of these procedures will be paid for by the study.

How is this study going to help you?
If you are in the study, you will be helping the researchers answer the study question.

What are the risks or discomforts I should know about before making a decision?
The study will take time. All studies have some risks. Some risks are relatively small, but some are more serious – for this study, these include discomfort or bruising at the injection site, allergic reaction, fever, headaches, muscle pain, loss of privacy, and breach of confidentiality. A full list of expected risks, their frequency and severity are in the “What are the possible risks and discomforts?” section of this document.

Alternatives to Joining This Study
Since this is not a treatment study, the alternative is not to participate.

Costs
You WILL NOT have to pay for any of the study procedures.

What Should I Do Next?
Read this form, or have it read to you. Make sure the study doctor or study staff explains the study to you. Ask questions (e.g., about exact time commitment, about unfamiliar words, more details on specific procedures, etc.) Take time to consider this and talk about it with your family and friends.

Emory University
Consent to be a Research Subject / HIPAA Authorization

Arms A & D

Title: Yellow Fever Immune Response: Human Immune Responses to Yellow Fever Vaccination

Principal Investigator: Srilatha Edupuganti, MD, MPH

Study-Supporter: Emory Vaccine Center

Introduction

You are being asked to be in a medical research study. This form is designed to tell you everything you need to think about before you decide if you want to be a part of the study. **It is entirely your choice. If you decide to take part, you can change your mind later on and withdraw from the research study.** The decision to join or not join the research study will not cause you to lose any medical benefits. If you decide not to take part in this study, your doctor will continue to treat you.

Before making your decision:

- Please carefully read this form or have it read to you
- Please listen to the study doctor or study staff explain the study to you
- Please ask questions about anything that is not clear

You can take a copy of this consent form, to keep. Feel free to take your time thinking about whether you would like to participate. You may wish to discuss your decision with family or friends. Do not sign this consent form unless you have had a chance to ask questions and get answers that make sense to you. By signing this form, you will not give up any legal rights.

A description of this clinical trial will be available on http://www.ClinicalTrials.gov, as required by U.S. law. This Web site will not include information that can identify you. At most the Web site will include a summary of the results. You can search this Web site at any time.

What is the purpose of this study?

This study is being done to learn more about immune responses to the Yellow Fever Virus (YFV) vaccine. YFV is usually given to adults who are traveling to areas in the world that have the disease Yellow Fever. The purpose of this study is to better understand the body's immediate immune responses as well as long-term immune responses among adults who receive YFV. The long-term immune response uses cells called memory T and B cells. Memory T and B cells are infection-fighting white blood cells that can recognize foreign bacteria or viruses that were encountered during an earlier infection or vaccination. This research will be helpful in understanding the basic immunological mechanisms to the YFV vaccine, which can lead to the development of better, safer and effective vaccines in the future. We plan to also do genetic testing on your blood cells to determine the genes that influence the immune responses. No other genetic tests such as tests for hereditary diseases will be done on your samples. In order to study the immune responses in depth, we may ask some participants to consider having an extra procedure called leukapheresis done (this will be explained in a separate consent form).

There will be a total of 250 participants in this study. We plan to enroll people who plan to travel to areas of high Yellow Fever rates as well as people who do not plan to travel internationally.

What will I be asked to do?

Screening Visit
If you agree to take part in this study, this visit will occur on the same day you sign this form. At this visit you may complete the following activities:

- Tell us about your medical history, general health, and medications
- Provide blood samples – up to 20 mL (about 4 teaspoons)
- HLA type testing (if your HLA type is not already known)

HLA Testing: HLA antigens are a set of several genes that you inherit from your parents. There are many variations and combinations of HLA genes that a person can have. HLA genes make proteins that sit on the outside of all of your cells. Your immune system uses HLA antigens to tell your cells apart from other things that can get inside your body. HLA testing is a genetic test. We will only be testing your HLA genes. We will **not** be doing any genetic testing to determine hereditary diseases.

In this study, researchers are interested in a specific HLA type called HLA-A202. Participants who have this HLA type (HLA-A202 positive) may be enrolled in Arm A . Participants who do not have this HLA type (HLA-A202 negative) may be enrolled in Arm D. The study activities for both arms are the same.

Women of childbearing potential must agree to use effective birth control throughout the duration of the study. Study staff can discuss effective methods of birth control with you.

Based on the results of the Screening Visit activities, the study staff will determine if you are a good fit for the study or not. If you are, you will be asked to come back for the Enrollment Visit.

Enrollment Visit (Day 0)
If you are determined to be eligible for the study, we will ask you to complete the enrollment visit and receive the YFV-17D vaccination. This visit may be done on the same day as the Screening Visit or at a later time. You will be asked to complete the activities listed below:

Before Vaccination:
- You will be asked to read the vaccine information sheet for YFV per CDC guidelines.
- Tell us about your general health and current medications
- Have a physical exam done
- Provide blood samples
- Pregnancy test (if you are of childbearing ability)

Vaccination:
All vaccinations will be given as a shot in the arm.

After Vaccination:
You will be observed for a minimum of 20 minutes for any allergic reactions to the vaccine. We will also give you a symptom diary for you to record any side effects that you experience for 7 days after vaccination.

Follow-Up Visits
The exact schedule of follow up visits is shown in the schedule of activities below.

Follow up visits may include the following activities:
- Tell us about your general health and current medications
- Provide blood samples

- Review your symptom diary with study staff
- You will be assessed for any allergic reactions to the vaccine

Schedule of Activities

Visit	Screen	Day 0	Day 3*	Day 7*	Day 14	Day 21*	Day 28	Day 90	Day 180	Day 360
Informed Consent	X									
Medical History and Medications	X									
Physical Exam		X								
Urine Pregnancy Test		X								
Vaccination		X								
Symptom Diary				Bring to Clinic						
Blood Sample	X	X	X	X	X	X	X	X	X	X

*Visit Days 3, 7 and 21 may be optional depending on the current needs of the study.

Optional Storage of Leftover Blood Samples and Future Blood Samples
After tests are completed on your blood, we would like your permission to keep any remaining specimens for possible use in future research studies such as testing for antibodies against other viruses or bacteria. This consent for future use of left-over samples is optional. Your participation in the main study will not be affected in any way if you chose to not allow your left-over samples to be used for research not specified in this protocol. In addition, we may ask you to come back to donate a blood sample in the future for additional immunological studies. You will be compensated for this additional visit.

At the end of this form, we will ask you to indicate whether or not you agree to storage of blood samples and future testing.

How will my vaccine be provided?
The vaccine will be dispensed by the pharmacist and delivered to the principal investigator or study team member. The principal investigator or health care providers on his/her research team will provide the vaccine to you. If you have questions about the vaccine, you should ask the study doctor or study nurse. You may also call the pharmacy at [redacted] if you have questions about the vaccine.

Who owns my study information and samples?
If you join this study, you will be donating your samples and study information. You will not receive any compensation if your samples or information are used to make a new product. If you withdraw from the study, data and samples that were already collected may still be used for this study.

What are the possible risks and discomforts?

Risks of drawing blood:
Risks of drawing blood include discomfort, bleeding or bruising at the site where the needle enters the body and a small risk of infection.

Risk from the Yellow Fever vaccine:
Participants receiving the Yellow Fever vaccination are required to read the Vaccine Information Sheet about the Yellow Fever vaccine. Participants may experience an allergic reaction to the vaccine. These allergic

reactions are explained in the Vaccine Information Sheet. In some cases, these reactions can be serious. If you experience any of the following symptoms, please contact the study doctor, Dr. Edupuganti, at [redacted] at the Hope Clinic between 8AM to 5PM. After clinic hours, you may call the Emory Hospital Paging Service at [redacted] and ask for The Hope Clinic Physician on Call.

The following symptoms can occur up to a few hours after receiving the YFV vaccine:

- difficulty breathing
- hoarseness
- wheezing
- hives
- paleness, weakness
- fast heartbeat
- dizziness

The following symptoms can occur up to 30 days after receiving the YFV vaccine:

- soreness, redness, or swelling where the shot was given
- behavioral changes
- flu-like symptoms
- fever
- headaches
- fatigue
- muscle pain (myalgias)

Some people have developed hepatitis (swelling of the liver) or encephalitis (swelling of the brain) after getting the YFV vaccine, but this is rare. Most people who get these problems recover with no lasting effects. Very rarely, about 1 in 250,000 doses, YFV vaccine has caused severe disease involving multiple body organs. Some of these people have died from the vaccine. The risk of serious disease and death after YFV vaccine seems to be higher among people older than 60 years of age and among people who have had problems with their thymus gland.

Risks from genetic testing*:*
We are planning to do genetic testing on your blood samples. We are not planning to do genetic tests to determine hereditary diseases. We will keep all genetic test results as part of research records, and they will not become part of your Emory medical record or shared with your doctor unless you give us permission to do so. It is possible that if others found out information about you that is learned from these tests (such as information about HLA type) it could cause you problems with your family (having a family member learn about a disease that may be passed on in families or learning who is the true parent or a child) or problems getting a job or insurance. The risk of this is extremely low because your results will not be part of your medical records.

It is possible that the researchers will learn something new during the study about the risks of being in it. If this happens, they will tell you about it. Then you can decide if you want to continue to be in this study or not. You may be asked to sign a new consent form that includes the new information if you decide to stay in the study.

Will I benefit directly from the study?
This study is not designed to benefit you directly. However, you may benefit from receiving the Yellow Fever Vaccine, which is recommended for travel to countries where yellow fever disease is active. This study is designed to learn more about immune responses to the Yellow Fever Vaccine. The study results may be used to help others in the future.

Will I be compensated for my time and effort?
You will get $75.00 for each completed study visit, to compensate you for your time, travel and effort. In the unlikely event we need to ask you to come back for more study visits than are listed on this consent form, you

will receive $20 per visit. If you do not finish the study, we will compensate you for the visits you have completed. The Yellow Fever Vaccine will be provided to you at no cost. You may be asked to fill out a tax form, including your Social Security or Taxpayer Identification Number, in order to be reimbursed, depending on the amount and method of payment. Some payment methods involve mail coming to your house, which may be seen by others in your household. You can decline payment if you are concerned about confidentiality, or you can talk to the study team to see if there are other payment options.

What are my other options?
This study is voluntary. You do not have to participate. You can still get a Yellow Fever Vaccine outside of the study.

Taking part in this study, however, may make you unable to participate in some other research studies, if they exclude people who have taken certain treatments. You should discuss this with the researchers if you have concerns. You may wish to research other study options at websites like clinicaltrials.gov and ResearchMatch.org.

How will you protect my private information that you collect in this study?
Whenever possible, a study number, rather than your name, will be used on study records. Your name and other identifying information will not appear when we present or publish the study results.

Study records can be opened by court order. They also may be provided in response to a subpoena or a request for the production of documents.

Storing and Sharing your Information
De-identified data from this study (data that has been stripped of all information that can identify you), including your de-identified genetic information, may be placed into public databases where, in addition to having no direct identifiers, researchers will need to sign data use agreements before accessing the data. We will remove or code any personal information that could identify you before your information is shared. This will ensure that, by current scientific standards and known methods, it is extremely unlikely that anyone would be able to identify you from the information we share. Despite these measures, we cannot guarantee anonymity of your personal data.

Your data and specimens from this study may be useful for other research being done by investigators at Emory or elsewhere. To help further science, we may provide your deidentified data and/or specimens to other researchers. If we do, we will not include any information that could identify you. If your data or specimens are labeled with your study ID, we will not allow the other investigators to link that ID to your identifiable information.

We will use your sample and data only for research. We will not sell them. However, the results of this research might someday lead to the development of products (such as a commercial cell line, a medical or genetic test, a drug, or other commercial product) that could be sold by a company. You will not receive money from the sale of any such product.

In general, we will not give you any individual results from the study of the samples you give us. If we find something of urgent medical importance to you, we will inform you, although we expect that this will be a very rare occurrence.

How is my Genetic Information Protected? What are the Risks?
The Genetic Information Nondiscrimination Act (GINA) is a federal law that generally makes it illegal for health insurance companies, group health plans, and most employers to discriminate against you based on your genetic information. This law generally will protect you in the following ways:

- Health insurance companies and group health plans may not request your genetic information that we get from this research.
- Health insurance companies and group health plans may not use your genetic information when making decisions regarding your eligibility or premiums.
- Employers with 15 or more employees may not use your genetic information that we get from this research when making a decision to hire, promote, or fire you or when setting the terms of your employment.

Be aware that GINA does **not** protect you against genetic discrimination by companies that sell life insurance, disability insurance, or long-term care insurance, and does not apply to employers with less than 15 employees.

In addition to GINA, the State of Georgia has laws that prohibit insurers from using genetic testing information for any non-treatment purpose. However, like GINA, this state law protection has exclusions: life insurance policies, disability income policies, accidental death or dismemberment policies, Medicare supplement policies, long-term care insurance policies, credit insurance policies, specified disease policies, hospital indemnity policies, blanket accident and sickness policies, franchise policies issued on an insurance policy written as a part of workers' compensation equivalent coverage, or other similar limited accident and sickness policies.

Privilege
In the State of Georgia, in some circumstances your genetic information has may have special legal protections called "privilege." This means that the information cannot be used as evidence in a court. By allowing us to use and disclose your genetic information for this research study along with other information about you that genetic information used in the research may no longer have that legal protection. Other protections described in this form will still apply. There are also other confidentiality protections for research data in general under Georgia state law.

Medical Record
If you have been an Emory Healthcare patient before, then you already have an Emory Healthcare medical record. If you have never been an Emory Healthcare patient, you do not have one. An Emory Healthcare medical record will not be made for you as part of participation in this study.

Copies of the consent form/HIPAA authorization that you sign will be put in any Emory Healthcare medical record you have now or any time during the study.

None of the study tests or results done will be placed in your Emory medical record. They will be stored in your research records only. The confidentiality of the study information in your research record will be protected by laws like the HIPAA privacy rule. State and federal laws may not protect the research information from disclosure.

Tests and procedures done at non-Emory places may not become part of your Emory medical record. Also, if you decide to be in this study, it is up to you to let your other health providers know.

Costs
There will be no costs to you for participating in this study, other than basic expenses like transportation. You will not be charged for any of the research activities.

Withdrawal from the Study
You have the right to leave a study at any time without penalty.

The researchers also have the right to stop your participation in this study without your consent for any reason, especially if they believe it is in your best interest or if you were to object to any future changes that may be made in the study plan.

These are the expected reasons why the researchers may stop your participation:

- The study doctors may decide that it is no longer in your best interest to take part in the study.
- You do not follow study instructions.

If you decide to withdraw from this study, you have the right to withdraw consent from having your blood cells used in this study. If you withdraw from the study, but do not withdraw consent for having your blood cells used, your blood cells will continue to be used in this study. If you withdraw consent from having your blood cells used in this study, your blood cells will be destroyed. A pre-printed revocation letter addressed to Dr. Edupuganti will be given to you for your use.

However, any of the long-lived cell lines made with your blood cells will not be destroyed. These copies may be used for research or product development. Any products that are already in existence at the time that you decide to destroy your blood cells will also remain the property of the study investigator.

Authorization to Use and Disclose Protected Health Information

The privacy of your health information is important to us. We call your health information that identifies you, your "protected health information" or "PHI." To protect your PHI, we will follow federal and state privacy laws, including the Health Insurance Portability and Accountability Act and regulations (HIPAA). We refer to all of these laws as the "Privacy Rules." Here we let you know how we will use and disclose your PHI for the main study and for any optional studies in which you may choose to participate.

Main Study

PHI that Will be Used/Disclosed:
The PHI that we will use or share for the main research study includes:

- Medical information about you including your medical history and present/past medications.
- Results of exams, procedures and tests you have before and during the study.
- Laboratory test results.

Purposes for Which Your PHI Will be Used/Disclosed:
We will use and share your PHI for the conduct and oversight of the research study. We will use and share your PHI to provide you with study related treatment and for payment for such treatment. We will also use and share your PHI to conduct normal business operations. We may share your PHI with other people and places that help us conduct or carry out the study, such as laboratories, data management centers, data monitors, contract research organizations, Institutional Review Boards (IRBs) and other study sites. If you leave the study, we may use your PHI to determine your health, vital status or contact information.

Use and Disclosure of Your Information That is Required by Law:
We will use and disclose your PHI when we are required to do so by law. This includes laws that require us to report child abuse or abuse of elderly or disabled adults. We will also comply with legal requests or orders that require us to disclose your PHI. These include subpoenas or court orders.

Authorization to Use PHI is Required to Participate:
By signing this form, you give us permission to use and share your PHI as described in this document. You do not have to sign this form.

People Who will Use/Disclose Your PHI:
The following people and groups will use and disclose your PHI in connection with the research study:

- The Principal Investigator and the research staff will use and disclose your PHI to conduct the study.
- Emory may use and disclose your PHI to run normal business operations.
- The Principal Investigator and research staff will share your PHI with other people and groups to help conduct the study or to provide oversight for the study.
- The Emory Hope Clinic and the Emory Vaccine Center are the Sponsors of the study. The Sponsor may use and disclose your PHI to make sure the research is done correctly and to collect and analyze the results of the research. The Sponsor may disclose your PHI to other people and groups like study monitors to help conduct the study or to provide oversight for the study.
- The following people and groups will use your PHI to make sure the research is done correctly and safely:
    - Emory offices that are part of the Human Research Participant Protection Program and those that are involved in study administration and billing. These include the Emory IRB, the Emory Research and Healthcare Compliance Offices, and the Emory Office for Clinical Research.
    - Government agencies that regulate the research including: Office for Human Research Protections
    - Public health agencies.
    - Research monitors and reviewer.
    - Accreditation agencies.
- Sometimes a Principal Investigator or other researcher moves to a different institution. If this happens, your PHI may be shared with that new institution and their oversight offices. PHI will be shared securely and under a legal agreement to ensure it continues to be used under the terms of this consent and HIPAA authorization.

Optional Study: Storage of Leftover Blood Samples and Future Blood Samples:

Authorization for This Use of PHI is Required to Participate in Optional Study, but Not in Main Study:
You do not have to authorize the use and disclosure of your PHI for the optional studies. If you do not authorize the use and disclosure of your PHI for the optional studies, then you may not participate in the optional research study, but you can still be in the main research study.

Expiration of Your Authorization
Your PHI will be used until this research study ends.

Revoking Your Authorization
If you sign this form, at any time later you may revoke (take back) your permission to use your information. If you want to do this, you must contact the study team at:

Dr. Sri Edupuganti
[redacted]

At that point, the researchers would not collect any more of your PHI. But they may use or disclose the information you already gave them so they can follow the law, protect your safety, or make sure that the study was done properly, and the data is correct. If you revoke your authorization, you will not be able to stay in the main study.

Other Items You Should Know about Your Privacy
Not all people and entities are covered by the Privacy Rules. HIPAA only applies to health care providers, health care payers, and health care clearinghouses. If we disclose your information to people who are not

covered by the Privacy Rules, including HIPAA, then your information won't be protected by the Privacy Rules. People who do not have to follow the Privacy rules can use or disclose your information with others without your permission if they are allowed to do so by the laws that cover them.

To maintain the integrity of this research study, you generally will not have access to your PHI related to this research until the study is complete. When the study ends, and at your request, you generally will have access to your PHI that we maintain in a designated record set. A designated record set is data that includes medical information or billing records that your health care providers use to make decisions about you. If it is necessary for your health care, your health information will be provided to your doctor.

We may remove identifying information from your PHI. Once we do this, the remaining information will not be subject to the Privacy Rules. Information without identifiers may be used or disclosed with other people or organizations for purposes besides this study.

Contact Information

Contact Dr. Sri Edupuganti at [redacted]:

- if you have any questions about this study or your part in it,
- if you feel you have had a bad reaction to the vaccine, or
- if you have questions, concerns or complaints about the research

Contact the Emory Institutional Review Board at 404-712-0720 or 877-503-9797 or irb@emory.edu:

- if you have questions about your rights as a research participant.
- if you have questions, concerns or complaints about the research.
- You may also let the IRB know about your experience as a research participant through our Research Participant Survey at http://www.surveymonkey.com/s/6ZDMW75.

Consent and Authorization

Consent and HIPAA Authorization for Optional Study/Studies:

Please initial below if you opt to participate in and authorize use and disclosure of your PHI in the optional study/studies previously described:

Storage of Leftover Blood Samples

Please initial below to indicate whether or not you agree to allow your leftover blood samples to be stored for future research purposes. Your decision will not affect your ability to take part in the study.

_____Yes, I agree to have my leftover blood samples stored and used for future research.
(Initials)

_____No, I do not agree to have my leftover blood samples stored and used for future research.
(Initials)

Future Blood Samples

Please initial below to indicate whether or not you agree to be contacted and asked to give additional blood samples after your participation in the main study is over. Your decision will not affect your ability to take part in the study.

_____Yes, I agree to be contacted for additional blood samples after the main study is over.
(Initials)

_____ No, I do not agree to be contacted for additional blood samples after the main study is over.
(Initials)

TO BE FILLED OUT BY SUBJECT ONLY

Please **print** your name, **sign**, and **date** below if you agree to be in this research study, and any optional studies you initialed above. By signing this consent and authorization form, you will not give up any of your legal rights. We will give you a copy of the signed form to keep.

_____

Name of Subject

_____ _____ : ___ **am / pm**

Signature of Subject (18 or older and able to consent) **Date** **Time**

TO BE FILLED OUT BY STUDY TEAM ONLY

_____

Name of Person Conducting Informed Consent Discussion

_____ _____ : ___ **am / pm**

Signature of Person Conducting Informed Consent Discussion **Date** **Time**