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Ann Arbor, Michigan, USA

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### Gene Identification in Childhood Kidney Disease

Dear Colleagues,

Thank you for your interest in the mutational screening of patients with nephrotic syndrome (NS), congenital anomalies of the kidney or urinary tract (CAKUT), nephronophthisis (NPHP), or patients that have another rare kidney disease.

#### Nephrotic Syndrome

We are performing mutational analysis in the *NPHS2*-gene (podocin) and *WT-1*-gene. Our aim is to find out whether there is any correlation between the occurrence of mutations in the *NPHS2*-gene and the clinical outcome of these patients (e.g. response to steroids and cytotoxic drugs, relapse after transplantation) (Karle et al. *J Am Soc Nephrol* 13:388, 2002). This genetic analysis is investigational and is performed in the setting of a research laboratory and there are no universal standards for the performance of these studies. The investigators endeavor to attain the highest standards in their analysis, but these analyses should not be considered diagnostic tests, rather investigational genetic tests, not intended to replace other clinical or laboratory evaluations or treatments that would otherwise be considered the standard of care.

#### CAKUT

Identification of new genes causing CAKUT will offer new insights into the pathomechanisms of urinary tract malformations, as well as kidney development. CAKUT accounts for a significant degree of morbidity seen in children possessing such lesions. Clinically these abnormalities comprise the most common causes of infant and childhood chronic renal insufficiency and ultimately renal transplantation. The purpose of this proposal is to provide critical data needed to elucidate the genetic causes that underlie these various syndromes and provide a potential screening tool for families at high risk. Additionally, insights gained from this study will provide us and the research community with new information involving the abnormal and normal development of the genitourinary tract, which will have a potentially larger patient application in the future.

#### NPHP

Nephronophthisis (NPHP), an autosomal-recessive cystic kidney disease, is the most frequent genetic cause of chronic renal failure in the first two decades of life (Hildebrandt 2009). It is characterized clinically by a defect in urinary concentrating ability and progression into terminal renal failure in adolescence. Renal histology exhibits renal tubular basement membrane disruption, tubular atrophy with interstitial fibrosis, and cyst formation. NPHP can occur in association with extra-renal defects. These include retinal degeneration, ocular motor apraxia, cerebellar vermis aplasia, congenital hepatic fibrosis, and developmental defects of bone (Hildebrandt & Zhou 2007). By positional cloning of 10 different recessive genes (*NPHP1-10*) as causing NPHP, if mutated, we have contributed to the discovery of a new group of diseases, "ciliopathies," which are caused by mutations in genes that are expressed in primary cilia and centrosomes.

We will use state of the art molecular genetic diagnostics to identify the exact genetic cause of the renal disease that a child is suffering from (or a family member is suffering from, if that patient requests molecular genetic diagnostics for their own kidney disease). To find this cause we may use techniques that look at changes in very many genes at the same time, some of which may be known to cause other diseases. Because we are not experts on other diseases, we will alert participants to the fact that we will not evaluate or report changes in any other genes that are not the direct cause of the child's (or family member's) kidney disease. This means that if the participant is interested in gene identification or risk

identification in any other disease, they will have to request an independent molecular genetic test for those.

These genetic tests are presently considered investigational and are part of a research protocol. There is no cost for the blood draw, shipping or processing of the samples to the patients or family members of the patients who agree to participate in the study. Office visits for physicians or genetic counselors are not paid for by this study, nor are any other laboratory tests. Results of genetic analyses are generally available 3-6 months following the receipt of a sample. Results are transmitted directly to the corresponding physician and not to individual participants. Participants will therefore need to depend upon their local physician to communicate and explain the results of the genetic tests. The investigators would be happy to discuss the results of the genetic testing with any local physician who wishes to do so. **No results will be reported for individual participants who do not have a diagnosis of NS, CAKUT or NPHP at the time of enrollment.**

If an individual is found to have NS, CAKUT or NPHP after enrolling in the study a local physician may contact the investigators, at which time results of any genetic testing which has been performed can then be released to the local physician. Local physicians, or their representatives, are expected to review the consent document with prospective participants and indicate that they feel the participant understands the nature of the study by signing the consent document before the participant signs the consent document. In addition to the copy that is returned to the investigators, the participant and the local physician should also keep a signed copy of the consent.

We also kindly ask you to fill out a clinical questionnaire which includes not only important information on the family history, the clinical picture, the response to treatment, and extrarenal associations, but also on the ethnicity of your patient. Recent studies and our own data suggest that ethnic groups are affected differently by mutations in genes causing nephrotic syndrome, such as podocin and nephrin. Our group is interested in elucidating genotype/phenotype correlations in this disease. We, therefore, want to encourage you to describe your patient's ethnicity in as detailed a way as possible. Please feel free to check more than one box and/or use the "other" checkbox with a more detailed description.

Please return the following items to the investigators:

1. Signed consent document.
2. Health questionnaire.
3. Blood sample: 3-10ml EDTA or Na-Heparin blood for each participant.
4. Outside the U.S.: Customs Invoice (see end of document)

***Blood samples without a signed consent document cannot be processed or analyzed.***

As in the past, we are happy to provide free shipping of your blood samples. Therefore, we would like to kindly ask you to contact our laboratory for information on free shipping. Virginia Vega-Warner will be happy to help you and can be contacted by e-mail at [vvegaw@umich.edu](mailto:vvegaw@umich.edu). DNA samples can be shipped by regular mail.

Please e-mail us at the time of shipping with the shipping number, so that we can track the package and ensure safe delivery. Thank you again for your participation. Please do not hesitate to contact us with any questions or concerns.

Best regards,



Friedhelm Hildebrandt, M.D.

Professor of Pediatrics and of Human Genetics  
Investigator, Howard Hughes Medical Institute  
Frederick G. L. Huetwell Professor for Cure and Prevention of Birth Defects

## BLOOD SAMPLE COLLECTION FOR MUTATIONAL ANALYSIS

1. Email: Before shipping samples please send an email to the below mentioned email address to alert us to your incoming shipment; or email at the time of shipping the samples, please include the tracking number, so we can be certain to receive them within 2 days or otherwise track them.

2. Venipuncture: Draw 1-3ml (neonate), 10ml (child), 20ml (adult) EDTA-blood or Na-Heparin under sterile conditions (wear gloves, do not touch rim of tubes); immediately invert tubes several times to prevent coagulation. If syringes and tubes are being used rinse syringe with Na-Heparin.

**3. Storage: Always keep blood samples at room temperature! (Never chill, never freeze!)**

4. Transport: Protect samples from the cold by wrapping them in gauze or packaging them in Styrofoam. Do not forget to contact us! Send samples and filled-out forms (informed consent and clinical questionnaire) inside the shipping package. Place customs forms outside the shipping package. Address the package to the person listed below, and ship by the fastest route possible (2-day Express Air Mail, Federal Express, DHL Worldwide Express, or UPS). Get a guarantee and tracking number from the carrier to deliver samples to our destination within 1-2 days (regular air mail is much too slow for blood samples).

If you like, you can use our personal courier account. For information on the account number please contact Virginia Vega-Warner at [v vegaw@umich.edu](mailto:v_vegaw@umich.edu) or Professor Friedhelm Hildebrandt at [fhilde@umich.edu](mailto:fhilde@umich.edu).

Thank you for your cooperation!

Send samples to:

Prof. Dr. med. F. Hildebrandt  
University of Michigan, Department of Pediatrics  
1150 W Medical Center Dr, 8220C MSRB3  
Ann Arbor, Michigan 48109-5646, USA  
Fax: 734-615-1386  
eMail: [fhilde@umich.edu](mailto:fhilde@umich.edu)

## BUCCAL SWAB SAMPLE COLLECTION FOR MUTATIONAL ANALYSIS

### Instructions for buccal swab collection and shipping:

In order to collect good DNA it is best to collect the cells first thing in the morning before eating, drinking, and brushing teeth. It is especially important that no tea, coffee, or soda pop is consumed before the sample is taken.

Instructions for collection:

1. Review and sign the consent document with each patient from whom blood is drawn.
2. Two buccal swabs are required from each individual. Gently run the brush firmly backwards and forwards along the inside cheek, and in between the cheek and gum. This should be done for 30 seconds. **Please time it.** It is longer than you think! **There is no need for force, do not brush so hard that the patient bleeds.**
3. When you have finished, place the brush back in the package (**the used end goes in first**).
4. When returning buccal swab samples please include:
  - a. 2 buccal swabs
  - b. Signed consent documents
  - c. Health questionnaire
  - d. Any available renal imaging or biopsy reports
5. Please ship the above items to the following shipping address:

**Dr. F. Hildebrandt**  
**University of Michigan, Department of Pediatrics**  
**8220 MSRB 3, 1150 W. Medical Center Drive**  
**Ann Arbor, Michigan 48109-5646, USA**

6. When you ship the items, please e-mail [sjallen@umich.edu](mailto:sjallen@umich.edu) with the tracking number of the shipment immediately, so we can track the package and ensure safe delivery.
7. Results for deletion analysis are generally available in 4-6 months and a report will be sent to your physician when it is available.

Thank you for your interest. Please do not hesitate to contact us with any questions or concerns.

# Juvenile Nephronophthisis (Questionnaire)

Prof. F. Hildebrandt, M.D.

*Thank you very much for taking the time to fill out this form.*

## General Patient Information

Last name: \_\_\_\_\_ First name: \_\_\_\_\_

DOB: \_\_\_(mm)/\_\_\_(dd)/\_\_\_(yy)

m  f

height: \_\_\_cm

weight before illness: \_\_\_kg

Consanguineous parents

yes  no

Relatives with renal diseases

mother

sister

father

others: \_\_\_\_\_

brother

**I. Initial Clinical Examination:** \_\_\_(mm)/\_\_\_(dd)/\_\_\_(yy)

### 1. Symptoms (initial)

- acute event
- during regular examination
- polyuria
- polydypsia

- oedema
- high blood pressure
- need of treatment
- others:

### 2. Laboratory Findings (initial)

#### Blood studies:

- hemoglobin \_\_\_\_\_g/l
- hematocrit \_\_\_\_\_%
- Na \_\_\_\_\_mmol/l
- K \_\_\_\_\_mmol/l
- Ca \_\_\_\_\_mg
- P \_\_\_\_\_mg
- SGOT \_\_\_\_\_IU
- SGPT \_\_\_\_\_IU
- pH \_\_\_\_\_

#### Urine analysis:

- HCO<sub>3</sub> \_\_\_\_\_mEq/l
- GFR \_\_\_\_\_ml/min
- creatinine \_\_\_\_\_mg/dl
- uric acid \_\_\_\_\_mg/dl
- serum protein \_\_\_\_\_g/l
- albumin \_\_\_\_\_g/l
- immunologic abnormalities (immunoglobulins/complement components) following: \_\_\_\_\_
- urine concentration \_\_\_\_\_mosm/kg H<sub>2</sub>O
- aminoaciduria
- hematuria
- proteinuria \_\_\_\_\_g/day or \_\_\_\_\_g/g crea
- selective
- nonselective

### 3. Imaging Techniques

bone age \_\_\_\_\_  
ultrasonography

medullary cysts

increased echogenity

### 4. Renal Biopsy

Nephronophthisis (NPH)  
others: \_\_\_\_\_

1st biopsy  
\_\_\_\_\_/\_\_\_\_\_  
(mm/yy)

2nd biopsy  
\_\_\_\_\_/\_\_\_\_\_  
(mm/yy)

**Patient Name:** \_\_\_\_\_

**II. Treatment**

Dialysis / renal transplantation

date of end stage renal failure: \_\_\_/\_\_\_/\_\_\_  
1st transplantation: \_\_\_/\_\_\_/\_\_\_  
2nd transplantation: \_\_\_/\_\_\_/\_\_\_  
(mm/yy)

- unsuccessful transplantation because of:
  - recurrence
  - graft loss because of:
    - recurrence
    - rejection

**III. Extrarenal Association**

The patient suffers / suffered from one of the following diseases:

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> deafness                       | <input type="checkbox"/> short stature       | <input type="checkbox"/> urinary/genital tract anomalies |
| <input type="checkbox"/> blindness/retinitis pigmentosa | <input type="checkbox"/> newborn's tachypnea | <input type="checkbox"/> heart anomalies                 |
| <input type="checkbox"/> microcephaly                   | <input type="checkbox"/> hexadactylia        | <input type="checkbox"/> allergy                         |
| <input type="checkbox"/> mental retardation             | <input type="checkbox"/> vermisaplasia       | <input type="checkbox"/> others: _____                   |

**IV. Possible Gene Involvement**

\_\_\_\_\_ Infantile NPHP (NPHP2/inversin)  
\_\_\_\_\_ Leber amaurosis (NPHP5)  
\_\_\_\_\_ Liver fibrosis (NPHP11/MKS3)

**V. Remarks**

*Thank you very much for your assistance. Please provide us with the following information in order to facilitate further correspondence. Results of genetic analyses will be sent to the physician at the address below:*

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
Address: \_\_\_\_\_ Fax: \_\_\_\_\_  
Address: \_\_\_\_\_ eMail: \_\_\_\_\_

# University of Michigan

## Consent To Be Part Of A Research Study

### INFORMATION ABOUT THIS FORM

You, or your child, may be eligible to take part in a research study. This form gives you important information about the study. It describes the purpose of the study, and the risks and possible benefits of participating in the study. Parents or legal guardians, who are giving permission for a child, please note: in the sections that follow the word 'you' refers to 'your child.' \*NOTE: Items with an "\*" asterisk are for the child's understanding and assent.

Please take time to review this information carefully. After you have finished, you should talk to the researchers about the study and ask them any questions you have. You may also wish to talk to others (for example, your friends, family, or other doctors) about your participation in this study. If you decide to take part in the study, you will be asked to sign this form. *Before you sign this form, be sure you understand what the study is about, including the risks and possible benefits to you.*

We will use state of the art molecular genetic diagnostics to identify the exact genetic cause of the renal disease that your child is suffering from (or that you yourself are suffering from, if you are the patient who requests molecular genetic diagnostics for your own kidney disease). To find this cause we may use techniques that look at changes in very many genes at the same time, some of which may be known to cause other diseases. Because we are not experts on other diseases, we would like to alert you to the fact that we will not evaluate or report changes in any other genes that are not the direct cause of your child's (or your) kidney disease. This means that if you are interested in gene identification or risk identification in any other disease, you will have to request an independent molecular genetic test for those.

(This document was prepared in December, 2011.)

### 1. GENERAL INFORMATION ABOUT THIS STUDY AND THE RESEARCHERS

#### 1.1 Study title:

Gene Identification in Childhood Kidney Disease

#### 1.2 Company or agency sponsoring the study:

National Institutes of Health  
Doris Duke Charitable Foundation  
Howard Hughes Medical Institute

#### 1.3 Names, degrees, and affiliations of the researchers conducting the study:

Friedhelm Hildebrandt, MD	Principal Investigator	U of M Pediatric Nephrology
Roger Wiggins, MD	Consultant	U of M Internal Medicine
Jeffrey Innis, MD	Consultant	U of M Human Genetics
Catherine Keegan, MD, PhD	Consultant	U of M Human Genetics
Mark Russell, MD	Consultant	U of M Pediatric Cardiology
Matthew Sampson, MD, PhD	Consultant	U of M Pediatric Nephrology
Edgar Otto, PhD	Co-Investigator	U of M Pediatric Nephrology
Rannar Airik, PhD	Co-Investigator	U of M Pediatric Nephrology
Susan Allen, MS	Co-Investigator	U of M Pediatric Nephrology
Shazia Ashraf, MS	Co-Investigator	U of M Pediatric Nephrology
Moumita Chaki, PhD	Co-Investigator	U of M Pediatric Nephrology
Katrina Diaz, BS	Co-Investigator	U of M Pediatric Nephrology
Humphrey Fang, BS	Co-Investigator	U of M Pediatric Nephrology
Heon Yung Gee, MD, PhD	Co-Investigator	U of M Pediatric Nephrology
Amiya Ghosh, PhD	Co-Investigator	U of M Pediatric Nephrology
Jan Halbritter, MD	Co-Investigator	U of M Pediatric Nephrology
Alina Hilger, BS	Co-Investigator	U of M Pediatric Nephrology
Julia Hoefele, MD	Co-Investigator	Zentrum für Humangenetik, Germany
Toby Hurd, PhD	Co-Investigator	U of M Pediatric Nephrology
Daw-Yang Hwang, MD	Co-Investigator	U of M Pediatric Nephrology
Svjetlana Lovric, MD	Co-Investigator	U of M Pediatric Nephrology
Sivakumar Natarajan, MS	Co-Investigator	U of M Pediatric Nephrology

Stephanie Rains-Lynema, MD	Co-Investigator	U of M Neonatal-Perinatal Medicine
Pawaree Saisawat, MD	Co-Investigator	U of M Pediatric Nephrology
Virginia Vega-Warner, PhD	Co-Investigator	U of M Pediatric Nephrology
Weibin Zhou, PhD	Co-Investigator	U of M Pediatric Nephrology

## 2. PURPOSE OF THIS STUDY

### 2.1 Study purpose:

Nephrotic syndrome (NS) is one of the most common kidney diseases. Congenital anomalies of the kidney and urinary tract (CAKUT) are a [genetic disorder](#) involving the [kidneys](#), and the urinary tract. Nephronophthisis (NPHP) is a monogenic recessive cystic kidney disease that represents the most frequent genetic cause of kidney failure. The purpose of this research is to find genes that can cause NS, CAKUT and NPHP. \*NS, CAKUT and NPHP mean that the kidneys are not doing what they should. We are trying to find out why.

## 3. INFORMATION ABOUT STUDY PARTICIPANTS (SUBJECTS)

Taking part in this study is completely **voluntary**. You may also leave the study at any time. If you leave the study before it is finished, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled. \*You do not have to be in the study if you don't want to. Your parent (or guardian) can make sure that this study will be okay for you. Both you and your parent have to agree to you being in the study, but it is still up to you if you *want* to do it.

### 3.1 Who can take part in this study?

Anybody with NS, CAKUT, NPHP or any individual that has been diagnosed with a rare kidney disease, as determined by a kidney specialist; and any first degree family members (i.e. siblings, parents or children) of these individuals are eligible to participate in this study. In cases in which the parents of the affected individual are consanguineous (i.e. they share a blood relationship) more distantly related family members may be considered eligible for the study. \*If your doctor has told you that your kidneys have NS, CAKUT, NPHP or other rare kidney diseases, you can be in the study.

*Note: It is very **important** for you to give the researchers **accurate** and **complete** information about your medical history and condition.*

### 3.2 How many people (subjects) are expected to take part in this study?

5,000 subjects are expected to participate, 200 at the University of Michigan and 800 at other sites around the United States, 4,000 will be from world-wide sources.

## 4. INFORMATION ABOUT STUDY PROCEDURES

### 4.1 What exactly will be done to me in this study? What kinds of research procedures will I receive if I agree to take part in this study?

In order to enroll in this study you must review this document with your doctor. If you agree to be a research subject in this study, your physician will provide information to us about your previous loss of protein by the kidney and any other relevant medical history and laboratory results that you may have had done already as a part of your health care to this point. If other members of your family are also affected by the disease, we kindly ask you to inform them of our study and we will provide you information to give them. Interested eligible family members can give us permission to contact them by sending a postcard to us that we will provide to you.

Finally, a blood sample will be obtained using the same procedures as for standard blood tests. The total amount of blood collected from an adult will correspond with approximately 4 teaspoons (corresponding 20 ml); the total amount of blood collected from a child will correspond with approximately 2 teaspoons (corresponding 10 ml); the total amount of blood collected from a neonate will correspond with approximately ½ teaspoon (corresponding 1-3 ml). \*If you want to be in the study a doctor or nurse will take some blood from your arm (it might hurt a little), or use a little brush that you put in your mouth for about 30 seconds (it will not hurt). The blood or spit on the

brush is what we will use to do our tests to find out why the kidneys leak. That is all you have to do to help us.

Alternatively, we will ask you to collect cells from inside of your child's mouth and we will obtain DNA samples from the cells. To collect the cells we have provided you with a small brush known as a CytoSoft brush. The collection takes about 30 seconds and will not hurt.

In order to collect good DNA it is best to collect the cells first thing in the morning before eating, drinking, and brushing teeth. It is especially important that no tea, coffee, or soda pop is consumed before the sample is taken.

**\*Instructions for collection:**

1. Unwrap the mouth swab by peeling at the arrow, and remove brush from packaging.
2. Place the brush in your mouth between your teeth and the inside of your cheek.
3. Run the swab firmly backwards and forwards along your cheek and in between the cheek and gum. This should be done for 30 seconds. Please time it. It is longer than you think! **There is no need for force, do not brush so hard that you bleed.**
4. When you have finished, replace the swab in the package (the used end goes in first).
5. Please send brushes along with any paperwork (for example, completed questionnaire and/or signed consent forms) in the envelope provided.
6. If you have further questions/clarification, please call the study coordinator.

We will then test your sample for mutations in a gene that causes this kidney disease. If you are known to have kidney disease as determined by your doctor, a report of the results of genetic testing can be sent to your doctor if you wish. These results are part of a research study and not part of a certified laboratory testing. All samples received will be saved indefinitely, unless the participant withdraws from the study. If you do not have a mutation in a known gene, we will perform further studies to identify new disease causing genes as part of this research project. This type of research can take years, if you develop kidney disease after enrolling in the study you are encouraged to inform the investigators of this change and you would be eligible to receive results of genetic testing if you desired them.

In case tissue of your kidney has been removed in the course of your disease, we ask you for permission to obtain a sample from your doctor. Please note that this procedure does not require any additional involvement of you, if you agree to the analysis of your tissue at the end of this form.

This research project is designed to identify the causes of NS, CAKUT and NPHP. The cost of office visits to local physicians or genetic counselors are not covered by this study; nor are any testing other than the blood draw for the DNA sample requested by this study.

As new knowledge on the causes of nephrotic syndrome or other genetic kidney diseases becomes available, new ideas for research projects might arise. Therefore, you will have the opportunity to let us know at the end of this document, whether or not you agree to let us use your samples for future related studies. New studies will follow the same strict ethical guidelines for your protection as this study.

**4.2 How much of my time will be needed to take part in this study? When will my participation in the study be over?**

To participate in this study a single visit is required to complete this consent form and to draw blood. In rare cases (e.g. because of problems with processing the sample), a second visit to draw an additional blood sample might be necessary. The visit will take approximately one hour. The DNA taken from the blood sample will be stored indefinitely for the evaluation of the genetic causes of nephrotic syndrome or other genetic kidney diseases exclusively as described in this document.

**4.3 When will my participation in the study be over?**

As stated above (see question 4.2), the DNA taken from the blood sample will be stored indefinitely for the evaluation of the genetic causes of nephrotic syndrome or other genetic kidney diseases exclusively as described in this document. \*We will keep your samples until we are done studying them.

## 5. INFORMATION ABOUT RISKS AND BENEFITS

### 5.1 What risks will I face by taking part in the study? What will the researchers do to protect me against these risks?

The known or expected risks are:

- The risks for a routine venous blood draw which include discomfort, bruising, faintness or lightheadedness and very rarely infection.
- The risk for identifying a genetic cause of disease can include difficulty in obtaining insurance or increased cost of insurance. However, since insurance companies do not cover the costs for genetic testing, blood draws for genetic testing or shipping and handling of the blood for genetic testing in this study they are not entitled to the results of this study. The investigators will not disclose any findings of this study to anyone other than the participant's private physician. If desired the researchers will not report any results to the participant's private physician.
- The risk for learning of a genetic cause of disease may cause the participant emotional distress which could result in depression or anxiety. We hope to minimize distress caused by this information as we report only for individuals who are already aware that they have kidney disease and therefore, this information will only provide a definitive diagnosis for people who are already known to have kidney disease.

As with any research study, there may be additional risks that are unknown or unexpected.

- The blood draw will be performed in a controlled environment using antiseptic technique. Your insurability will not be jeopardized by the investigators, as no information from this study is shared with anyone other than the participant's private physician if so desired.
- Please consider the emotional impact that receiving the results of this study will have for you. Your participation in this study does not require that the results of the study be reported to your physician. If you do not understand potential ramifications of learning the results of this study you are encouraged to discuss these with your local physician, the investigators or obtain genetic counseling prior signing this consent and enrolling in the study. This study does not cover the costs of genetic counseling or physician visits to review or discuss results of this study before or after results become available.

"A new Federal law, called the Genetic Information Nondiscrimination Act (GINA), 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. All health insurance companies and group health plans must follow this law by May 21, 2010. All employers with 15 or more employees must follow this law as of November 21, 2009."

### 5.2 What happens if I get hurt, become sick, or have other problems as a result of this research?

The researchers have taken steps to minimize the risks of this study. Even so, you may still have problems or side effects, even when the researchers are careful to avoid them. Please tell the researchers listed in Section 10 about any injuries, side effects, or other problems that you have during this study. You should also tell your regular doctors.

The University of Michigan will provide first aid or emergency care. Additional medical care will be provided if the University determines that it is responsible to provide such treatment. If you sign this form, you do not give up your right to seek additional compensation if you are harmed as a result of being in this study.

### 5.3 If I take part in this study, can I also participate in other studies?

Being in more than one research study at the same time, or even at different times, may increase the risks to you. It may also affect the results of the studies. You should not take part in more than one study without approval from the researchers involved in each study.

### 5.4 How could I benefit if I take part in this study? How could others benefit?

You may not receive any personal benefits from being in this study. Some people find satisfaction in contributing to scientific knowledge about genetic problems and their medical consequences. Others could benefit in the future by improved diagnostic and therapeutic procedures.

**5.5 Will the researchers tell me if they learn of new information that could change my willingness to stay in this study?**

Yes, the researchers will tell you if they learn of important new information that may change your willingness to stay in this study. If new information is provided to you after you have joined the study, it is possible that you may be asked to sign a new consent form that includes the new information.

**6. OTHER OPTIONS**

**6.1 If I decide not to take part in this study, what other options do I have?**

If you do not want to participate in this study, there will be no penalty. In this case, we cannot offer you genetic testing for nephrotic syndrome or other genetic kidney diseases. Ask your doctor about other options you may have.

**7. ENDING THE STUDY**

**7.1 If I want to stop participating in the study, what should I do?**

You are free to leave the study at any time. If you leave the study before it is finished, there will be no penalty to you, and you will not lose any benefits to which you may otherwise be entitled. If you choose to tell the researchers why you are leaving the study, your reasons for leaving may be kept as part of the study record. If you decide to leave the study before it is finished, please notify one of the persons listed in Section 10 "Contact Information" (below). Samples without identifiers might still be retained for research. When this study ends, samples will be stripped of information or codes that could identify you and the samples then stored for use in other studies in an anonymous fashion, or the samples may be properly disposed of.

**7.2 Could there be any harm to me if I decide to leave the study before it is finished?**

No

**7.3 Could the researchers take me out of the study even if I want to continue to participate?**

Yes. There are many reasons why the researchers may need to end your participation in the study. Some examples are:

- ✓ The researcher believes that it is not in your best interest to stay in the study.
- ✓ You become ineligible to participate.
- ✓ The study is suspended or canceled.

**8. FINANCIAL INFORMATION**

**8.1 Will taking part in this study cost me anything? Will I or my insurance company be billed for any costs of the study? If so, which costs? What happens if my insurance does not cover these costs?**

There are no costs or billing for this study.

**8.2 Will I be paid or given anything for taking part in this study?**

No. You will not be paid for taking part in this study.

**8.3 Who could profit or financially benefit from the study results?**

No person or organization has a financial interest in the outcome of this study.

**9. CONFIDENTIALITY OF SUBJECT RECORDS AND AUTHORIZATION TO RELEASE YOUR PROTECTED HEALTH INFORMATION**

The information below describes how your privacy and the confidentiality of your research records will be protected in this study.

**9.1 How will the researchers protect my privacy?**

Your blood sample will be coded and the code list securely stored and accessible only to members of the investigative team. If there is a medical reason to seek specific information from you in the

future, your doctor will tell you about this. When results are shared with other scientists no names or other information which could be used to identify the participant will be shared.

## **9.2 What information about me could be seen by the researchers or by other people? Why? Who might see it?**

Signing this form gives the researchers your permission to obtain, use, and share information about you for this study, and is required in order for you to take part in the study. Information about you may be obtained from any hospital, doctor, and other health care provider involved in your care, including:

- Hospital/doctor's office records, including test results (X-rays, blood tests, urine tests, etc.)
- Mental health care records (except psychotherapy notes not kept with your medical records)
- Alcohol/substance abuse treatment records
- Your AIDS/HIV status
- All records relating to your condition, the treatment you have received, and your response to the treatment
- Billing information

There are many reasons why information about you may be used or seen by the researchers or others during or after this study. Examples include:

- The researchers may need the information to make sure you can take part in the study.
- The researchers may need the information to check your test results or look for side effects.
- University, Food and Drug Administration (FDA), and/or other government officials may need the information to make sure that the study is done in a safe and proper manner.
- Study sponsors or funders, or safety monitors or committees, may need the information to:
  - Make sure the study is done safely and properly
  - Learn more about side effects
  - Analyze the results of the study
- Insurance companies or other organizations may need the information in order to pay your medical bills or other costs of your participation in the study.
- The researchers may need to use the information to create a databank of information about your condition or its treatment.
- Information about your study participation may be included in your regular UMHS medical record.
- Federal or State law may require the study team to give information to government agencies. For example, to prevent harm to you or others, or for public health reasons.

The results of this study could be published in an article, but would not include any information that would let others know who you are.

## **9.3 What happens to information about me after the study is over or if I cancel my permission?**

As a rule, the researchers will not continue to use or disclose information about you, but will keep it secure until it is destroyed. Sometimes, it may be necessary for information about you to continue to be used or disclosed, even after you have canceled your permission or the study is over. Examples of reasons for this include:

- To avoid losing study results that have already included your information.
- To provide limited information for research, education, or other activities (This information would not include your name, social security number, or anything else that could let others know who you are.)
- To help University and government officials make sure that the study was conducted properly.

As long as your information is kept within the University of Michigan Health System, it is protected by the Health System's privacy policies. For more information about these policies, ask for a copy of the University of Michigan Notice of Privacy Practices. This information is also available on the web at <http://www.med.umich.edu/hipaa/npp.htm>. Note that once your information has been shared with others as described under Question 9.2, it may no longer be protected by the privacy regulations of the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA).

## **9.4 When does my permission expire?**

Your permission expires at the end of the study, unless you cancel it sooner. You may cancel your permission at any time by writing to the researchers listed in Section 10 "Contact Information" (below).

## 10. CONTACT INFORMATION

### 10.1 Who can I contact about this study?

Please contact the researchers listed below to:

- Obtain more information about the study
- Ask a question about the study procedures or treatments
- Report an illness, injury, or other problem (you may also need to tell your regular doctors)
- Leave the study before it is finished
- Express a concern about the study

Principal Investigator: Friedhelm Hildebrandt, MD  
University of Michigan Medical Center  
Department of Pediatrics and Communicable Diseases  
1150 W. Medical Center Drive  
MSRB III, Room 8220C  
Ann Arbor, MI 48109-5646  
e-mail: [mutation@renalgenes.org](mailto:mutation@renalgenes.org)

Study Coordinator:  
University of Michigan Medical Center  
Department of Pediatrics and Communicable Diseases  
1150 W. Medical Center Drive  
MSRB III, Room 8220  
Ann Arbor, MI 48109-5646  
Telephone: 734-764-7145  
e-mail: [mutation@renalgenes.org](mailto:mutation@renalgenes.org)

You may also express a concern about a study by contacting the Institutional Review Board listed below, or by calling the University of Michigan Compliance Help Line at 1-888-296-2481.

University of Michigan Medical School Institutional Review Board (IRBMED)  
2800 Plymouth Road, Bldg. 200, Rm. 2086  
Ann Arbor, MI 48109-2800  
Telephone: 734-763-4768  
Fax: 734-615-1622  
E-mail: [irbmed@umich.edu](mailto:irbmed@umich.edu)

If you are concerned about a possible violation of your privacy, contact the University of Michigan Health System Privacy Officer at 1-888-296-2481.

*When you call or write about a concern, please provide as much information as possible, including the name of the researcher, the IRBMED number (at the top of this form), and details about the problem. This will help University officials to look into your concern. When reporting a concern, you do not have to give your name unless you want to.*

## 11. RECORD OF INFORMATION PROVIDED

### 11.1 What documents will be given to me?

Your signature in the next section means that you have received copies of all of the following documents:

- This "Consent to be Part of a Research Study" document. (*Note: In addition to the copy you receive, copies of this document will be stored in a separate confidential research file and may be entered into your regular University of Michigan medical record.*)
- Other (specify): \_\_\_\_\_

*\*The following should be completed by the study member conducting the assent process. If the child agrees to be in the study, check all that apply:*

- The child is capable of reading and understanding the assent form and has signed below as documentation of assent to take part in this study.
- The child is not capable of reading the assent form, but the information was verbally explained to him/her. The child signed below as documentation of assent to take part in this study.
- The child had ample opportunity to have his or her questions answered.

*\*I have read this form or someone has read it to me. If I did not understand something, I asked the doctor or the assistant to explain it to me. I can always ask the doctor or the assistant a question about the study if I don't understand something.*

## 12. SIGNATURES

### Research Subject:

I understand the information printed on this form. I have discussed this study, its risks and potential benefits, and my other choices with \_\_\_\_\_. My questions so far have been answered. I understand that if I have more questions or concerns about the study or my participation as a research subject, I may contact one of the people listed in Section 10 (above). I understand that I will receive a copy of this form at the time I sign it and later upon request. I understand that if my ability to consent for myself changes, either I or my legal representative may be asked to re-consent prior to my continued participation in this study.

Signature of Subject: \_\_\_\_\_ Date: \_\_\_\_\_

Name (Print legal name): \_\_\_\_\_

Patient ID: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

If a **result** is obtained by the research:

Yes, I want to know the result

\_\_\_\_\_ (Please initial)

No, I do NOT want to know the result

\_\_\_\_\_ (Please initial)

### Kidney Tissue:

Yes, kidney tissue has been obtained in the course of my disease and I agree that that tissue is used for further investigations.

\_\_\_\_\_ (Please initial)

No, I do NOT want my tissue samples to be used in the course of this project.

\_\_\_\_\_ (Please initial)

### Future Specimen Use:

Yes, I agree to have my samples used in future related research projects on nephrotic syndrome or other genetic kidney diseases.

\_\_\_\_\_ (Please initial)

No, I do NOT want to have my samples used in future related research projects on nephrotic syndrome or other genetic kidney diseases.

\_\_\_\_\_ (Please initial)

### Legal Representative (if applicable):

Signature of Person Legally

Authorized to Give Consent: \_\_\_\_\_ Date: \_\_\_\_\_

Name (Print legal name): \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

Check Relationship to Subject:

Parent  Spouse  Child  Sibling  Legal Guardian  Other: \_\_\_\_\_

**If this consent is for a child who is a ward of the state (for example a foster child), please tell the study team immediately. The researchers may need to contact the IRBMED.**

Reason subject is unable to sign for self: \_\_\_\_\_

### Principal Investigator (or Designee):

I have given this research subject (or his/her legally authorized representative, if applicable) information about this study that I believe is accurate and complete. The subject has indicated that he or she understands the nature of the study and the risks and benefits of participating.

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date of Signature: \_\_\_\_\_

### Witness (optional):

I observed the above subject (or his/her legally authorized representative, if applicable) sign this consent document.

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date of Signature: \_\_\_\_\_