SickKids
THE HOSPITAL FOR SICK CHILDREN
Research Ethics Board

Participant name:

DOB:

HSC #:

Research Ethics Board
Research Consent Form for Unaffected Individuals Participating in Study

Genetic Analysis

Title of Research Project:

Molecular and Genomic Analysis of Autism Spectrum and Associated Neurodevelopmental Disorders

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Purpose of the Research

We hope to use this study to help us find genes that may predispose or cause autism spectrum and/or associated neurodevelopmental disorders.

Molecular, genomic and epigenetic studies of the genes and proteins involved in these conditions are likely to further our understanding of the basis of autism.
When we refer to a finding or problem being genetic, that usually means that there has been a change (or mutation) in a gene. Genes are sections of DNA which provide the instructions for how our bodies grow, develop and function. A genetic mutation changes the sequence of the DNA and this can cause an error in the instructions(s) from that specific gene. Epigenetic alterations are different because they do not involve changes in the DNA itself. Rather, the change may surround a section of DNA affecting access to the genes in that section. This can prevent a gene from providing a specific instruction that the body needs.

By finding the gene(s) or proteins or epigenetic alterations involved, we hope to improve our knowledge of autism, which, in turn, may help in diagnosis as well as the design of new treatments.

Description of the Research

1. Genetic studies: A small blood sample (20-30cc or 1-2 tablespoons) or other biological sample (saliva, cheek swab, etc.) will be taken from you by a trained health care professional; DNA will be isolated and cell lines established to look for molecular, genomic or epigenetic factors which may give us clues to the various factors contributing to your affected family member's problems.
    - The cell lines and DNA from the cell lines will be stored indefinitely for "research into autism spectrum and associated neurodevelopmental disorders". These cell lines will be non identifiable and may be shared with other laboratories outside of SickKids

    - The sample may be used for microarray testing to look for the presence of missing or extra genetic material (copy number variant, CNV) in the chromosomes with the focus on identification of genetic variants contributing to ASD in your family. If the microarray test identifies a chromosome change in you, microarray analysis will be performed on parental samples (if available) to help characterize the significance of the identified chromosome change. We know that some chromosome changes are normal variants found in the general population while others may be associated with medical issues. Checking the chromosome arrangement in the parents of individuals with a chromosome change can help us determine the potential significance of this change.

    - The sample may be used for Next Generation Sequencing to look for smaller changes in your genetic material. The focus is on the identification of the genetic factors contributing to ASD in your family.

- The sample may be used to look at the pattern of epigenetic changes in your DNA.

- You will be requested to sign a "Research Consent for Genetic Testing"

If the study identifies a molecular or genomic cause believed to be associated with the ASD and/or associated neurodevelopmental disorders related to you, the study clinician or genetic counsellor will discuss these findings with you. Repeat testing in a clinical laboratory might be recommended to confirm the research results.

Incidental findings: It is important that you understand that although we will be examining your entire genome, we will not be reviewing all of this information in detail. However, **there is a chance we may uncover health information which would directly impact your health care**. If the study identifies such information, **the study clinician or genetic counsellor involved in your care will contact you to discuss the finding**. Should this happen, repeat testing in a clinical laboratory might be recommended to confirm any research results and the benefits and risks as well as possible inconveniences will be discussed with you. Please indicate below if you want to be informed of any incidental findings.

☐ Yes, I would like to be informed of any incidental findings as described above.

☐ No, I do not want to be informed of any incidental findings as described above.

2. Your medical records may be requested for review. Your clinical information may be requested and questionnaires outlining your medical history and family history will be administered.
3. You may be contacted in the future regarding the analysis results or for additional clinical assessments (which you may or may not agree to participate in).

Potential Harms:

There may be a small amount of bleeding when blood is taken from a vein and there may be slight discomfort and bruising or redness that will usually disappear in a few days. EMLA patches, similar to bandaids which contain a cream that will numb the puncture area will be made available upon request.

Potential Discomforts or Inconvenience:

During the course of the study, if we identify any information that may have clinical significance to you, one of the investigators will contact you about these observations and arrangements will be made for counselling and assistance for you in understanding the personal and family significance should you need it. This knowledge could cause psychological stress to you, and your family. In rare cases, knowing about a presence of a genetic problem might possibly affect your health and/or life insurance coverage in the future.

The interpretation of the genetic information will depend in part on the family information that you have provided. If the results of genetic tests do not fit with the information that you

have given about your family, it may be that the test is faulty, or that the family information that you gave is wrong. For example, this might happen if the parents do not mention that their child was adopted, or that the biological father is different from the apparent father (this is known as non-paternity).

Potential Benefits:

To individual subjects:
You and your family may or may not benefit from participating in this study. It is possible that we will be able to identify the molecular or genomic cause of the autism spectrum and/or other neurodevelopmental disorder in your family which may help with treatment options. While we cannot know this for sure, we do know that the participation of your family will allow researchers to gain insight into the causes of autism spectrum and/or associated neurodevelopmental disorders. In addition, any incidental findings which are identified in you will be communicated to you if you choose. This could uncover health information which would directly impact the health care of your child.

There will be an annual group information session for parents of children with ASD and/or associated neurodevelopmental disorders, who are enrolled in this study, where any general findings of interest will be shared. A summary of the meeting will be posted on our website (http://www.tcag.ca/researchProjects.html).

To society:
Although you may not benefit directly from this study, results from the study will improve the understanding of autism spectrum and other neurodevelopmental disorders and may benefit patients in the future.

Confidentiality:
We will respect your privacy. No information about who you are will be given to anyone or be published without your permission, unless required by law. For example, the law could make us give information about you if a child has been abused, if you have an illness that could spread to others, if you or someone else talks about violence (killing themselves or others) or if the court orders us to give them the study papers.

SickKids Clinical Research Monitors, employees of Genome Canada, Autism Speaks, Networks of Centres of Excellence of Canada, Canadian Institutes of Health Research, and the Ontario Ministry of Research and Innovation may see your research study records to check on the study. By signing this consent form, you agree to let these people look at your records. We will put a copy of this research consent form in your patient health records.

The data produced from this study will be stored in a secure, locked location. Only members of the research team (and maybe those individuals described above) will have access to the data. This could include external research team members. Following completion of the research study the data will be kept as long as required then destroyed as required by SickKids policy. Published study results will not reveal your identity.

The results of the tests we describe in this form will be used only for this study. If another doctor or caregiver caring for you needs to see these results, you will have to give us your permission. We will ask you to sign a form saying that you agree that this person can see your results.

The data collected from you will be kept strictly confidential. Confidentiality will be maintained at all times by assigning number codes rather than names to genetic material (DNA and cell line sample). The codes will be kept in locked files and available only to Dr. Scherer or those working with him. No information that reveals your identity will be released or published without your consent. In addition, information regarding the results of this research may become part of your health record.

The DNA isolated and the cell lines established from your blood will be stored indefinitely with the number codes, so that as new genes are discovered which are involved in autism spectrum and associated neurodevelopmental disorders, Dr. Scherer can use this DNA to continue research into the molecular and genomic analysis of ASD and/or associated neurodevelopmental disorders. In addition de-identified DNA and cell lines may be shared with our collaborators outside of SickKids.

Reimbursement:

We will pay for your parking expense or public transit expenses for visiting SickKids for research assessments and blood collection. If you stop taking part in the study, we will pay these expenses for taking part in the study so far.

Participation:

If you choose to take part in this study you can take yourself out of the study at any time. The care you get at SickKids will not be affected in any way by whether you take part in this study. If you choose at anytime to withdraw your genetic material (blood DNA sample and cell line) from participation in the study, you will have the option of having the identifying labels removed and the DNA material left for research or having the material destroyed.

New information that we get while we are doing this study may affect your decision to take part in this study. If this happens, we will tell you about this new information. And we will ask you again if you still want to be in the study.

During this study we may create new tests, new medicines, or other things that may be worth some money. Although we may make money from these findings, we cannot give you any of this money now or in the future because you took part in this study.

In some situations, the study doctor for the study may decide to stop the study. This could happen even if the service provided by the study is helping you. If this happens, the study doctor will talk to you about what will happen next.

If you become ill or are harmed because of study participation, we will treat you for free. Your signing this consent form does not interfere with your legal rights in any way. The staff

of the study, any people who gave money for the study, or the hospital are still responsible, legally and professionally, for what they do.

Sponsorship:
This study is directed by Dr. Steve Scherer and the Hospital for Sick Children. The current funders of this research are Genome Canada, Autism Speaks, Networks of Centres of Excellence of Canada, Canadian Institutes of Health Research, and the Ontario Ministry of Research and Innovation.

Conflict of Interest:
Dr. Steve Scherer and the research team members have no obvious conflict of interest to declare.

Consent

By signing this form, I agree that:

1. You have explained this study to me. You have answered all my questions.
2. You have explained the possible harms and benefits (if any) of this study.
3. I know what I could do instead of taking part in this study. I understand that I have the right not to take part in the study and the right to stop at any time. My decision about taking part in the study will not affect my health care at SickKids.
4. I am free now, and in the future, to ask questions about the study.
5. I have been told that my medical records will be kept private except as described to me in the confidentiality section of this consent.
6. I understand that no information about who I am will be given to anyone without first asking my permission or be published in a way that would disclose personal identity.
7. I will provide information from my medical records regarding autism spectrum and associated neurodevelopmental disorders;
8. I will provide a blood sample.
9. Such a sample will be used as a source of cell lines and DNA, and stored indefinitely, for research into autism spectrum and associated neurodevelopmental disorders.
10. My DNA and/or cell lines can be used in this laboratory or sent to other laboratories for research into autism spectrum and associated neurodevelopmental disorders after all identifying information has been removed.
11. That you will attempt to contact me (by telephone or mail) in the future if any information about the molecular and genomic of autism spectrum and/or associated neurodevelopmental disorders that is specifically relevant to me comes to light or if there are additional studies I may be interested in.
12. I will inform you of any change in address or contact information.
13. I have read and understood pages 1 to 7 of this consent form. I agree, or consent, to take part in this study.

_____ _____

Printed Name of Subject & Age Subject's signature & date

_____	_____
Printed Name of person who explained consent	Signature & date
_____	_____
Printed Witness' name (if the subject/legal guardian does not read English)	Witness' signature & date

If you have any questions about this study, please call **Rebecca Baatjes at (416) 813-6307**

If you have questions about your rights as a subject in a study or injuries during a study, please call the Research Ethics Manager at (416) 813-5718.