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Illumina Clinical Services Laboratory
CLIA Certificate No.: 05D1092911

Illumina Clinical Services Laboratory

TruGenome™ Undiagnosed Disease Test Requisition Form

The TruGenome Undiagnosed Disease test is intended to identify the potential genetic basis of disorders with a suspected genetic etiology. The deliverable is a focused interpretation report based on clinical indication. The test is offered for individuals or trios (proband, mother, father). For trio testing, a report is only generated for the proband. While it may be possible to infer information about family members based on the proband's report, other family members will not receive a report specific to his/her genetic results or a copy of the proband's report. However, as all individuals within trios are sequenced, secondary findings reports based on American College of Medical Genetics recommendations will be issued for all participants.

- Optional TruGenome Predisposition Screen Report. For each adult over the age of 21 being sequenced, a TruGenome Predisposition Screen report can be added to the test for an additional fee. This report is an evaluation of predisposition for a pre-defined set of conditions as well as for carrier status for a set of conditions commonly covered in newborn screening and/or carrier screening panels.

Statement Regarding the TruGenome Undiagnosed Disease Test

- This test was developed, and its performance characteristics determined, by the Illumina Clinical Services Laboratory. The test has not been cleared or approved by the FDA. The laboratory is regulated under CLIA as qualified to perform high-complexity testing. This test is intended for clinical purposes. It should not be regarded as investigational or for research.
- The TruGenome Undiagnosed Disease test will be performed in the Illumina Clinical Services Laboratory. The laboratory is CLIA-certified and CAP-accredited.
- The Illumina Clinical Services Laboratory offers several tests in addition to the TruGenome Undiagnosed Disease test. Review the test descriptions at www.illumina.com/test_descriptions to make sure that the most appropriate test is ordered.
- Illumina cannot accept samples from New York state.
- The laboratory used to test your sample is in the United States. If you are outside of the United States then you are consenting that your sample and your data, including your personal information that may be of sensitive nature, are being sent outside of your country to the United States or created in the United States as part of the testing and analysis performed by Illumina.

To submit a sample for sequencing, you will need:

- A **completed** test requisition form *(required for each member of a trio)*

	Proband Test	Trio Test		
		Proband	Mother	Father
- Sections 1-6 are required	☐	☐	☐	☐
- Physician signature on page 1	☐	☐	☐	☐
- Billing information and signature on page 2	☐	☐		
- Clinical information	☐	☐		

- Patient Consent Form with signature
- Clinical Notes for Proband (enclose copies with sample)
- Properly labeled sample in the provided collection tube

Send the **completed** items listed above to:

Illumina, Inc.
ATTN: Illumina Clinical Services Laboratory
5200 Illumina Way
San Diego, CA 92122

Contact the Illumina Clinical Services Laboratory at 858.736.8080 if you have any questions.

Place Barcode Here

1. Requested Test (visit http://www.illumina.com/clinical/illumina_clinical_laboratory/trugenome-clinical-sequencing-services.html for test definitions).

Description (Select most appropriate test)	**Standard TAT**
TruGenome Undiagnosed Disease Test	☐ FT-800-1005
TruGenome Undiagnosed Disease Trio Test	☐ FT-800-1006

Optional: Add TruGenome Predisposition interpretation*: FT-800-3000 ☐ Proband ☐ Mother ☐ Father

* Additional fee required
Optional add-ons will be delivered after the primary interpreted report is delivered.

2. Physician and Institution Information

Authorized Physician (Print Name)	NPI (or License if no NPI) No.
Email **(Required for Return of Results)**	Phone Number
Institution Name	Genetic Counselor
Institution Address **(Required for Return of Results)**	

I certify that (i) this test is medically necessary, (ii) the patient (or authorized representative on the patient's behalf) has given his/her informed consent (which includes written informed consent or written authorization when required by law) to have this genetic testing performed, (iii) the informed consent obtained from the patient meets the requirements of applicable law and Illumina's Patient Informed Consent. I also certify that I am a medical doctor with the proper licensing in my country to order this testing.

Authorized Physician Signature *(required)* | Date (MM/DD/YYYY)

3. Patient Information

*First Name	Middle Initial	Last Name

Date of Birth (MM/DD/YYYY)	Sex							
	◯ Male	◯ Female	☐ African-American	☐ Asian/Pacific Islander	☐ Hispanic	☐ Native American	☐ Ashkenazi Jewish	☐ Caucasian	☐ Middle Eastern	☐ Other _____

ICD-10 codes

*Subject identifiers may be used for IRB-approved study samples

IRB Institution (if applicable)	IRB Protocol No.

☐ This patient is part of a TruGenome Undiagnosed Disease Trio

Place Barcode Here

Proband Name	Proband DOB
Proband Barcode ID	

4. Blood Collection Information

Date Sample Obtained (MM/DD/YYYY)	Sample Type
	☐ Blood in Collection Tube ☐ DNA sample

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5. Billing Information

- The Responsible Party identified below agrees to pay the full price of the test. Illumina will not begin processing the sample until payment arrangements have been made. Testing may be delayed if satisfactory payment arrangements have not been made.
- Illumina does not bill health insurers or institutional billing departments. If reimbursement is necessary or desired, the Responsible Party will make his/her own arrangement to receive reimbursement.

Please select the most appropriate billing option (this is the Responsible Party)

☐ Facility / Contract Billing *Facility / Physician billing must be pre-arranged*	☐ Patient / Legal Guardian / Other
Facility Name	Name (Name of Responsible Party)
Address	Billing Address
City / State / Zip	City / State / Zip
Purchase Order No. / Contact Person	Phone / Email
Phone / Email	

I agree that I am financially responsible for the full amount of the test price.

Responsible Party Acknowledgement and Signature | Date (MM/DD/YYYY)

Select your payment option: ☐ Payment by wire transfer (Illumina will contact me to arrange payment). ☐ Bill my credit card for 100% pre-payment **Illumina can only accept credit cards from the US and Canada*	Cardholder Name Card Number
Card Type: ◯ Visa ◯ MasterCard ◯ American Express	Exp Date (MM/YYYY) / CVV

6. Clinical Information The clinical information on this form will be used in the clinical interpretation of the data. In addition to completing the phenotype information, submit copies of relevant clinical notes, pedigree information, and family history.

List all the previous genetic/metabolic testing (e.g., chromosome analysis, microarray, etc.) and testing results.

Mother: Affected ◯ Yes ◯ No ◯ Uncertain **Father: Affected** ◯ Yes ◯ No ◯ Uncertain

Disease	Proband	Mother	Father	Comments
Growth				
Intrauterine Growth Restriction (IUGR)				
Failure to thrive				
Short stature				
Tall stature				
Obesity				
Hemi-hyperplasia				
Other (Please specify)				
Cardiovascular/Pulmonary				
Heart failure/sudden cardiac arrest				
Syncope				
Respiratory distress				
Congenital heart defects (Please specify)				
Cardiomyopathy (Please specify)				
Other (Please specify)				
Gastrointestinal				
Gastroschisis				
Omphalocele				
Constipation				
Diarrhea				
Vomiting				
Irritable bowel syndrome				
Other (Please specify)				
Cognitive/Behavioral				
Intellectual disability				
Developmental delay				
Autism				
Psychiatric traits/disorders (Please specify)				
Other (Please specify)				

Disease	Proband	Mother	Father	Comments
Neurologic/Muscular				
Seizures				
Muscle weakness				
Hypotonia				
Hypertonia				
Spasticity				
Abnormal speech				
Abnormal gait				
Other (Please specify)				
Skull and Brain Abnormalities				
Macrocephaly				
Microcephaly				
Craniosynostosis				
Hydrocephalus				
Structural brain abnormality (Please specify)				
Endocrine/Immune				
Diabetes				
Autoimmune disorder (Please specify)				
Other (Please specify)				
Renal/Urogenital				
Kidney abnormalities (Please specify)				
Genital abnormalities (Please specify)				
Skeletal/Limb				
Scoliosis				
Contractures				
Club feet				
Other (Please specify)				
Dysmorphic Features				
Face, ears, eyes, head, and neck				Fill in details below
Ocular/Auditory				
Vision loss				
Hearing loss				
Other (Please specify)				
Cancer				
Type:				
Age at disease-onset:				
Dysmophic Features. Face, ears, eyes, head, and neck (specify proband versus parent).				

Patient Informed Consent

For the TruGenome Undiagnosed Disease Test

Some states/countries may have additional requirements for informed consent. Make sure that you comply with those requirements and provide a copy of any additional written informed consents.

Introduction. This form describes the benefits, risks, and limitations of having your genome tested by sequencing. This is a voluntary test and you should seek genetic counseling before signing this form. Read this form carefully before making your decision about testing.

Purpose. The purpose of this test is to detect changes that are present in your DNA and to understand the potential consequences of these changes. This information may help your physician make more informed management decisions for your health. For more information on genetics, genetic disease, inheritance, or genetic testing, consult your physician or genetic counselor.

Test Procedure. A tube of your blood will be drawn and sent to Illumina, Inc. ("Illumina"). Illumina will analyze your sample, generate the DNA sequence for your genome, identify the variants, and interpret the identified variants.

Delivery of Test Results. Your test results will be sent to the physician that ordered the test. Speak with your physician if you would like a copy of the test results.

Interpretation. The variants identified in your genome will be interpreted based on current available scientific information to try to determine if they may be contributing to your disease and/or symptoms.

Your Family. The test results, like the results of other genetic tests, may have implications for your relatives. Speak with your physician or a genetic counselor about whether you should share your test results with others. If you decide to do this, consider the best way to communicate this information to them.

Benefits. Your test results may aid in determining a diagnosis for your symptoms and help you and your physician make more informed choices about your healthcare. It is also possible that this test will not identify the cause of the indicated symptoms. It is also possible that your test results will not provide any benefit. Much about genetics and its role in health is still not known.

Incidental Findings. Your test results will include an "incidental findings" report for yourself (and for other family members involved in trio testing). This report may contain information on variants unrelated to the indication for testing in genes recommended for reporting by the American College of Medical Genetics and Genomics. Information about changes in these genes and the diseases associated with them should be discussed with your physician prior to ordering the test.

Physical Risks. This test requires DNA most often provided from a sample of blood. Side effects of having blood drawn are uncommon, but may include dizziness, fainting, soreness, bleeding, bruising, and rarely, infection.

Discrimination Risks. Genetic information could potentially be used as a basis of discrimination. To address concerns regarding possible health insurance and employment discrimination, many U.S. states and the U.S. government have enacted laws to prohibit genetic discrimination in these circumstances. The laws may not protect against genetic discrimination in other circumstances such as when applying for life insurance or long-term disability insurance. Talk to your physician or genetic counselor if you have concerns about genetic discrimination before testing.

Other Risks. Your test results may reveal information about yourself, or your relatives, that you would rather not know. For example, you may learn information about genetic risks/predispositions to disease, including ones that might not be curable, ancestry, etc. In a trio or parent/child analysis, it may be discovered that a family member is unrelated to the patient, such as in the case of adoption or non-paternity. It may not be possible to prevent learning such information through this test. Talk to your physician or genetic counselor about the type of information that you do and do not want to know.

Limitations of the Test. This test can only detect some kinds of changes in DNA; other kinds of changes could cause disease or lead to symptoms. This test also cannot sequence all parts of a person's genome. In addition, the testing technology for whole genome sequencing has limits including a known error rate (though it is low). This means that other changes may exist in your genome, but they might not be detected by this test. Further testing of you and/or your family may be needed to confirm your test results which could result in additional expense to you. The meaning of some variants cannot be determined based on today's medical and scientific knowledge.

Privacy. Illumina keeps test results confidential. Illumina will only release your test results to your healthcare provider, his or her designee, other healthcare providers involved in your medical care, or to another healthcare provider as directed by you (or a person legally authorized to act on your behalf) in writing, or otherwise as required or authorized by applicable law.

Use of Information. Pursuant to best practices and clinical laboratory standards, leftover specimen and results may be used by Illumina for purposes of quality control, laboratory operations, and laboratory improvement. All such uses will be in compliance with applicable law.

Future Correspondence. Understanding of genetic variation is rapidly advancing, meaning that some of the changes we find in your genome might be better understood in the future. Illumina recommends that you keep in contact with your healthcare provider on an annual basis to learn of any new developments in genetics and to provide any updates to your personal or family history.

Financial Responsibility. Illumina does not bill insurance providers and this test may not be reimbursed by health insurance or covered by HMOs. This means that you are personally responsible for 100% of the costs of this testing.

Learn More. Visit www.illumina.com/test_description to learn more about the Illumina TruGenome Technical Sequence Data service.

Patient Informed Consent Statement

By signing below, I, the patient having the test performed, acknowledge that:

- I have been offered the opportunity to ask questions and discuss with my healthcare provider the benefits and limitations of the test to be performed as indicated on the associated test request form.
- I have discussed with the medical practitioner ordering this test the reliability of positive or negative test results and the level of certainty that a positive test result for a given disease or condition serves as a predictor of that disease or condition.
- I have been informed about the availability and importance of genetic counseling and have been provided with information identifying an appropriate healthcare provider from whom I might obtain such counseling.
- I have read this document in its entirety and realize I may retain a copy for my records.
- I consent to having this test performed and I will discuss the results and appropriate medical management with my healthcare provider/genetic counselor.

Name of Proband (please print)	Date of Birth (MM/DD/YYYY)
Signature of Proband (or Legal Guardian†)	Date (MM/DD/YYYY)

†Genetic testing on children under the age of majority requires that the ordering healthcare provider obtain an informed consent from a parent or legal guardian.

If legal guardian, specify relationship to the patient:

For Trio Testing Only:

I understand that this test is being performed to assist in the analysis of my family member (proband), that a TruGenome Undiagnosed Disease report will only be generated for the proband, and that it may be possible to infer information about my genetics based on the proband's TruGenome Undiagnosed Disease report. I will not receive a copy of the proband's test result. I will, however, receive a personal "Incidental Findings" report as described in the consent form above.

Name of Family Member (print)	Date of Birth (MM/DD/YYYY)
Signature of Family Member	Date (MM/DD/YYYY)