



**THE HOSPITAL FOR
SICK CHILDREN**
Paediatric
Laboratory Medicine

555 University Avenue
Room 3416, Roy C. Hill Wing
Toronto, ON, M5G 1X8, Canada
Tel: 416-813-7200 x1
Fax: 416-813-7732
(CLIA # 99D1014032)

Patient Name:
Preferred Name (if different):
Date of Birth (DD/MM/YYYY):
Legal Sex: Male Female Non-binary/U/X
Sex Assigned at Birth (if different): Male Female Unassigned
Gender Identity: Male Female Non-binary/U/X
MRN:
Parent's Name:
Address:

For Canada Only
Provincial Health Card #: _____ Version: _____
Issuing Province: _____

Genome Diagnostics

www.sickkids.ca/en/care-services/for-health-care-providers/lab-testing-services

Testing is provided for medical purposes only and results are not intended for forensic use. The laboratory is not a forensically accredited laboratory.

Referring Physician (required):

Name: _____
Facility/Ward/Clinic (required): _____
Address: _____
Phone: _____ Fax: _____
Email address: _____
Signature: _____

Reason for Testing (required):

- Diagnosis Carrier testing
 Familial mutation/variant analysis Prenatal testing
 Bank DNA only Variant re-assessment
 Parental sample
 Other (Specify): _____

If expedited testing is requested, indicate reason:

- Pregnancy (Gestational age (weeks) _____)
 Other (Specify): _____

Copy Report To Another Healthcare Provider (all information is required):

Name: _____
Address: _____
Phone: _____ Fax: _____

Familial Mutation / Targeted Variant Analysis:

***If proband testing was performed elsewhere, a copy of the original report (all pages) is required. Send a positive control sample if available.**

Gene & NM #: _____
Mutation/variant(s): _____
SickKids Laboratory/Order number: _____
SickKids Pedigree/Family number: _____
Name of proband: _____
Relationship to proband: _____
Name(s) & DOB of other submitted family members: _____

Sample Information (required):

Date obtained (DD/MM/YYYY): _____ - _____ - _____ Referring laboratory reference #: _____

- Blood in EDTA (purple top tube): min. 4 mL (0.5-3 mL for newborns)
 DNA: min. 10 ug in low TE buffer (Source: _____)
*Unable to perform MLPA analysis on externally extracted DNA (contact lab)
 Direct CVS: min. 10 mg direct villi
 Cultured villi: 1-2 confluent T25 flasks
 Cultured amniocytes: 1-2 confluent T25 flasks
 Tissue (Source: _____)
 Other (Specify: _____)

Closed consent:

- (If checked, all remaining DNA will be discarded upon notification by the ordering physician that all DNA testing has been completed)

Laboratory Use:

Date (DD/MM/YYYY) | Time Received:

_____ - _____ | _____ h

Lab/Order #: _____

Specimen type, amt & # of tubes: _____

Comments:

Pedigree/Family No./Patient/Order No. _____ / _____

Clinical Diagnostics and Family History (required):

Draw or attach a pedigree and provide any relevant information below, including clinical and family history details, as this is important for accurate interpretation of results.

Ethnicity: _____

Ordering Checklist:

- Specimen tube labeled with at least two identifiers
 Completed test requisition form
Clinical information must be provided for all tests. Pages 4-5 must be completed for all tests. Testing will not proceed until these are provided.
 Proband's report and positive control (familial/targeted variant testing only)
 Completed billing form (page 6, if applicable)

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LIST OF TESTS AVAILABLE BY DISEASE

For prenatal testing and cases where a familial mutation/variant is known, include information on page 1.

22q11 Deletion Syndrome

- 22q11 deletion/duplication analysis (*external DNA not accepted*)

Angelman Syndrome

- Methylation and deletion/duplication analysis (*external DNA not accepted*)
 UPD15 analysis (*please submit parental samples*)

Ashkenazi Jewish Carrier Screening

- Recurrent mutation analysis (7 diseases):
Bloom syndrome, Canavan disease, Familial Dysautonomia, Fanconi
Anemia Group C, Mucopolidosis Type IV, Niemann-Pick disease, Tay-Sachs
disease

ETHNICITY (required):

- Ashkenazic Sephardic French Canadian Cajun
 Non-Jewish Other _____

Autoinflammatory Disease *

Clinical information must be provided on pages 4 and 5

- Autoinflammatory Diseases (AID) NGS panel
 Recurrent Fever Syndrome (RFS) NGS panel
 Hemophagocytic Lymphohistiocytosis (HLH) NGS panel
 Aicardi-Goutieres Syndrome (AGS) NGS panel
 Deletion/duplication analysis

Becker Muscular Dystrophy

- DMD deletion/duplication analysis (*external DNA not accepted*)
 DMD sequence analysis

Beckwith-Wiedemann Syndrome

- IC1 and IC2 methylation† and 11p15 deletion/duplication analysis
(*external DNA not accepted*)
 UPD11 analysis
 CDKN1C sequence analysis
† No methylation analysis on CVS samples

Bone Marrow Transplantation

- Post-transplant monitoring

Caffey Disease

- COL1A1 recurrent mutation analysis

Cancer Related Tests

Li-Fraumeni Syndrome

- TP53 sequence analysis
 TP53 deletion/duplication analysis (*external DNA not accepted*)

Rhabdoid Tumour Predisposition Syndrome

- SMARCB1 sequence analysis
 SMARCB1 deletion/duplication analysis (*external DNA not accepted*)

Charge Syndrome

- CHD7 sequence analysis
 CHD7 deletion/duplication analysis (*external DNA not accepted*)

Cherubism

- SH3BP2 recurrent mutation analysis
 SH3BP2 sequence analysis

Congenital Muscular Dystrophies

- Sequence analysis panel:
FKTN (FCMD), FKR, POMGnT1, POMT1, POMT2

Connective Tissue Disease *

Clinical information must be provided on pages 4 and 5

If more than one panel is requested, rationale must be provided on page 5.

- Ehlers Danlos Syndrome NGS panel
 Osteogenesis Imperfecta NGS panel
 Osteopetrosis and Disorders of Increased Bone Density NGS panel
 Bone Involvement NGS panel
 Deletion/duplication analysis

Craniosynostosis

- Apert Syndrome (FGFR2 recurrent mutations analysis)
 Crouzon Syndrome (FGFR2, FGFR3 recurrent mutation analysis)
 Pfeiffer Syndrome (FGFR1, FGFR2, FGFR3 recurrent mutation analysis)
 Saethre-Chatzen Syndrome (TWIST1 sequence analysis and FGFR3
recurrent mutation analysis)
 Non-Syndromic Craniosynostosis (FGFR3 recurrent mutation analysis)
 TWIST1 deletion/duplication analysis (*external DNA not accepted*)

Cystic Fibrosis and/or CFTR-Related Disorders **

Indication (provide additional clinical details on page 1 and/or pages 4-5):

- Fetal echogenic bowel (*ensure parental samples are linked to each other on
both requisitions with at least two identifiers*)
 Clinical diagnosis of cystic fibrosis
 CFTR-related disorders
 Male factor infertility: oligo/azoospermia C(B)AVD
 Family history of cystic fibrosis
 Positive newborn screen (*ensure familial samples are linked to each other
on all requisitions with at least two identifiers; send NSO report*)

Tests (indication specific):

- CFTR recurrent mutation analysis
 CFTR sequence analysis
 CFTR deletion/duplication analysis (*external DNA not accepted*)

Dopamine Beta-Hydroxylase Deficiency

- DBH Sanger sequence analysis

Duchenne Muscular Dystrophy

- DMD deletion/duplication analysis (*external DNA not accepted*)
 DMD sequence analysis
 DMD mRNA analysis (*contact the laboratory before ordering*)

Fabry Disease

- GLA sequence analysis
 GLA deletion/duplication analysis (*external DNA not accepted*)
 GLA mRNA analysis (*contact the laboratory before ordering*)

Fragile X Syndrome & FMR1-related disorders

- Fragile X syndrome
 Fragile X-associated primary ovarian insufficiency
 Fragile X-associated tremor ataxia syndrome (FXTAS)

Fragile X E Syndrome ***

- AFF2 trinucleotide repeat analysis
(*See testing requirements*)

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Hearing Loss: Non-Syndromic, Autosomal Recessive

- GJB2 sequence analysis
- GJB6 deletion/duplication analysis (external DNA not accepted)

Hearing Loss: Pendred Syndrome

- SLC26A4 sequence analysis
- SLC26A4 deletion/duplication analysis (external DNA not accepted)

Hereditary Hearing Loss *

Clinical information must be provided on pages 4 and 5

When the Common and Non-Syndromic Hearing Loss Panel is requested, STRC dosage is tested.

- Common and Non-Syndromic Hearing Loss NGS panel
- Usher Syndrome NGS panel
- Stickler Syndrome NGS panel
- Alport Syndrome, Norrie Syndrome, Treacher Collins Syndrome, Waardenburg Syndrome NGS panel
- Deletion/duplication analysis

Hereditary Hemorrhagic Telangiectasia

- ACVRL1 sequence analysis
- ENG sequence analysis
- ACVRL1 and ENG deletion/duplication analysis (external DNA not accepted)
- SMAD4 sequence analysis

Hereditary Spastic Paraplegia *

Clinical information must be provided on pages 4 and 5

- Comprehensive HSP (AR/AD/XL) NSG panel including deletion/duplication analysis

Hunter Disease

- IDS sequence analysis
- IDS deletion/duplication analysis (external DNA not accepted)
- IDS mRNA analysis (contact the laboratory before ordering)

Identity Testing

- Zygosity studies
- Maternal Cell Contamination Studies (maternal sample required)

Neurofibromatosis type 1/Legius syndrome *

Clinical information must be provided on pages 4 and 5

- NF1 sequence analysis
- NF1 deletion/duplication analysis (external DNA not accepted)
- SPRED1 sequence analysis
- SPRED1 deletion/duplication analysis (external DNA not accepted)

Neuronal Ceroid Lipofuscinoses (Batten Disease)

- PPT1 (CLN1), TPP1 (CLN2) and CLN3 recurrent mutation analysis
- Sequence analysis panel: PPT1 (CLN1), TPP1 (CLN2), CLN3 CLN5, CLN6, CLN7, CLN8, CLN10

Noonan Syndrome and RASopathies *

Clinical information must be provided on pages 4 and 5

- Noonan Syndrome and RASopathies panel
- Deletion/duplication analysis for SPRED1 only (external DNA not accepted)

Prader-Willi Syndrome

- Methylation and deletion/duplication analysis (external DNA not accepted)
- UPD15 analysis (parental samples required)

Renal Diseases

- Atypical Hemolytic Uremic Syndrome / Membranoproliferative Glomerulonephritis sequence analysis
- Focal Segmental Glomerulosclerosis sequence analysis

Russell-Silver Syndrome

- IC1 methylation and 11p15 deletion/duplication analysis (external DNA not accepted)
- UPD7 analysis (parental samples required)

Shwachman-Diamond Syndrome

- SBDS sequence analysis

Simpson-Golabi-Behmel Syndrome

- GPC3 sequence analysis and GPC3 and GPC4 deletion/duplication analysis (external DNA not accepted)

Skeletal Dysplasia

- Achondroplasia (FGFR3 recurrent mutation analysis)
- Hypochondroplasia (FGFR3 recurrent mutation analysis)
- Thanatophoric Dysplasia (FGFR3 recurrent mutation analysis)

Spinal and Bulbar Muscular Atrophy

- AR trinucleotide repeat analysis

Spinal Muscular Atrophy

- SMN1 and SMN2 deletion/duplication analysis (external DNA not accepted)

Trismus Pseudocamptodactyly Syndrome

- MYH8 sequence analysis

X-Inactivation Analysis

- Other (PRIOR APPROVAL REQUIRED; CONTACT LABORATORY):

*Next-Generation Sequencing (NGS) testing will only be initiated if the clinical information sections (pages 4-5) are completed. For more information on our Next-Generation Sequencing (NGS) panels, including the list of genes tested, visit our website: www.sickkids.ca/en/care-services/for-health-care-providers/lab-testing-services

** For information on the testing algorithm for Cystic Fibrosis, visit <https://www.sickkids.ca/en/care-services/for-health-care-providers/lab-tests/244-Cystic-Fibrosis/> on our website
*** For information on the testing requirement for Fragile X E, visit the Specimen Requirements section for Fragile X E Syndrome on our website: www.sickkids.ca/en/care-services/for-health-care-providers/lab-tests/250-FRAXE

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DISEASE SPECIFIC FEATURES

Autoinflammatory Disorders (RFS/HLH)

- Abnormal inflammatory response
- Fevers
- Arthritis
- Pulmonary complications
- Gastrointestinal irritation
- Hepatosplenomegaly
- Lymphadenopathy
- Hemophagocytosis
- Oral ulcers
- Rash, specify: _____
- Ocular inflammation specify: _____
- Edema (periorbital, optic disk)
- Vision loss
- Other: _____

Hearing Loss

- Age of onset: _____
- Sensorineural hearing loss
- Conductive hearing loss
- Mixed hearing loss
- Bilateral Unilateral
- Syndromic Non-syndromic
- Ear anomalies Ear tags
- Eye anomalies Renal anomalies
- White forelock Cardiac anomalies
- Hirschsprung disease
- Other: _____

Hereditary Spastic Paraplegia (HSP)

- Abnormal corpus callosum
- Cognitive impairment
- Ataxia Spasticity
- Hyperreflexia Seizures
- Hypertonia Hypotonia
- Dystonia Dysarthria
- Extensor plantar reflex
- Other: _____

The following investigations are required before molecular testing of HSP is undertaken:

- MRI – Brain and spinal cord
- Biochemical testing - Vitamin B12, vitamin E, very long chain fatty acids, lysosomal work-up, plasma amino acids and serum lipoprotein analysis (as appropriate)

Neurofibromatosis type 1 (NF1) / Legius Syndrome

- The patient meets the NIH criteria for a clinical diagnosis of NF1
(>2 of the clinical features below).
- Café-au-lait macules ≥6 CALS (#: _____)
- Neurofibromas, ≥ 2 or ≥ 1 Plexiform
- Freckling, axillary or inguinal
- Optic glioma
- ≥2 Lisch nodules (iris hamartomas)
- Osseous lesion (type: _____)
- First degree relative diagnosed with NF1 by above criteria
- Other: _____
- The patient does not meet the NIH diagnostic criteria for NF1.
Rationale for testing must be provided on page 5.

Connective Tissue Disorders (CTD)

Ehlers Danlos Syndrome (EDS)

Indicate the suspected clinical diagnosis in the patient:

- Classic Vascular
- Kyphoscoliotic Other: _____

Check applicable CTD features below.

Osteopetrosis and Disorders of Increased Bone Density

Check applicable CTD features below.

CTD Related Clinical Features:

- Joint hypermobility:
Beighton score: _____
- Arterial aneurysms, dissection or rupture
- Intestinal rupture
- Molluscoid pseudotumors
- Subcutaneous spheroids
- Loose/stretchable skin
- Smooth/velvety skin
- Widened atrophic scars

Osteogenesis Imperfecta (OI)

If the patient does not present with one of the test indications below, rationale for testing must be provided on page 5.

- Fetal findings on anatomy ultrasound consistent with OI.
- Fractures with minimal or no trauma in the absence of other known disorders of bone metabolism.
- Vertebral fractures
- Dentinogenesis imperfecta
- Low ALP for age/gender (ALPL gene analysis only will be performed – not eligible for full panel)

Check applicable CTD features below.

Bone Involvement

Check applicable CTD features below.

- Recurrent spontaneous tendon rupture
- Easy bruising
- Myopia
- Lens dislocation
- Blue/gray sclerae
- Thumb or wrist sign
- Club foot
- Scoliosis
- Marfanoid habitus
- Short stature
- Shortened long bones
- Recurrent pneumothoraces
- Joint subluxations/dislocations
- Fractures
- Bone deformity
- Wormian bones
- Increased bone mineral density
- Diaphyseal sclerosis
- Hearing loss
- Osteosclerosis
- Other: _____

Noonan Syndrome and RASopathies

- Increased nuchal translucency
- Developmental delay
- Characteristic facies
- Broad or webbed neck
- Heart defect (specify: _____)
- Hypertrophic cardiomyopathy
- Short stature (%ile: _____)
- Pectus deformity
- Lymphatic dysplasias
- Characteristic hematological abnormality (specify: _____)
- Other RASopathy features (specify: _____)
- For postnatal patients: The patient must present with ≥ 2 of the above features for molecular testing to be undertaken.

FAMILY HISTORY (Required)

Draw or attach a pedigree and provide any relevant information below, including clinical and family history details, as this is important for accurate interpretation of results.

Ethnicity: _____

Genome Diagnostics

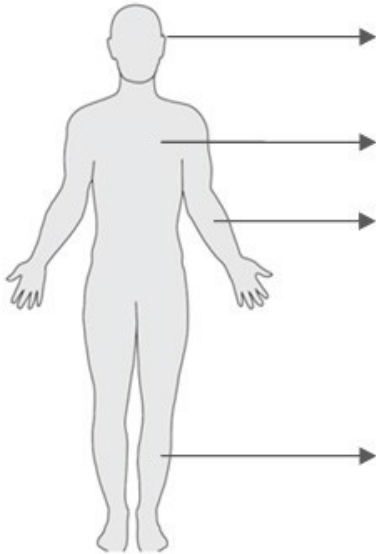
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ADDITIONAL RELEVANT CLINICAL INFORMATION

Previous Genetic Testing

- No
 Yes – Test Results: _____



GENERAL CLINICAL FEATURES

Perinatal history

- Premature birth
 IUGR
 Oligohydramnios Polyhydramnios
Other: _____

Growth

- Failure to thrive
 Growth retardation/short stature
 Overgrowth
 Macrocephaly Microcephaly
Other: _____

Physical/cognitive development

- Delayed fine motor development
 Delayed gross motor development
 Delayed speech and language
 Autistic behavior
 Intellectual disability
 Developmental regression
Other: _____

Behavioral

- Autistic features
 Obsessive-compulsive disorder
 Other psychiatric symptoms
Other: _____

Cancer/Malignancy

- Age of onset: _____
 Tumor type: _____
 Location(s): _____

Craniofacial/Ophthalmologic

- Abnormal face shape
 Blindness Cataracts
 Coloboma Optic atrophy
 Ophthalmoplegia Ptosis
 Retinitis pigmentosa
 Oral cleft
Other: _____

Brain malformations/abnormal imaging

- Abnormality of the basal ganglia
 Agenesis of the corpus callosum
 Brain atrophy
 Cortical dysplasia
 Hemimegalencephaly
 Heterotopia
 Holoprosencephaly
 Hydrocephalus
 Lissencephaly
 Periventricular leukomalacia
Other: _____

Cardiac/congenital heart malformations

- ASD VSD
 Coarctation of aorta
 Hypoplastic left heart
 Tetralogy of Fallot
 Cardiomyopathy
 Arrhythmia/conduction defect
Other: _____

Gastrointestinal

- Gastroschisis/omphalocele
 Gastrointestinal reflux
 Pyloric stenosis
 Tracheoesophageal fistula
 Hepatic failure
 Chronic intestinal pseudo-obstr.
 Hirschsprung disease
 Recurrent vomiting
 Chronic diarrhea
 Constipation
Other: _____

Genitourinary abnormalities

- Ambiguous genitalia
 Cryptorchidism
 Hypospadias
 Hydronephrosis
 Kidney malformation
 Renal agenesis
 Proximal renal tubulopathy
Other: _____

Endocrine

- Diabetes mellitus Type 1
 Diabetes mellitus Type 2
 Hypothyroidism
 Hypoparathyroidism
 Pheochromocytoma/paragan glioma
Other: _____

Neurological/Muscular

- Ataxia Hypotonia
 Chorea Hypertonia
 Dystonia Spasticity
 Exercise intolerance/ easy fatigue
 Headache/migraine
 Muscle weakness
 Seizures (type: _____)
 Stroke/stroke-like episodes
Other: _____

Skeletal/Limb abnormalities

- Contractures Club foot
 Polydactyly Syndactyly
 Vertebral anomaly Scoliosis
Other: _____

Skin/Hair

- Abnormality of the hair pattern, quantity
 Abnormal nail growth
 Abnormal pigmentation
 Café-au-lait macules
 Neoplasms of the skin
 Neurofibromas
 Blistering
 Ichthyosis
Other: _____



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Patient Name:
Preferred Name (if different):
Date of Birth (DD/MM/YYYY):
Legal Sex: Male Female Non-binary/U/X
Sex Assigned at Birth (if different): Male Female Unassigned
Gender Identity: Male Female Non-binary/U/X
MRN:
Parent's Name:
Address:

For Canada Only
Provincial Health Card #: _____ Version: _____
Issuing Province: _____

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BILLING FORM

Completion of Billing Form NOT required for patients with an Ontario Health Card Number.

The hospital, referring laboratory, referring physician, or a patient/guardian will be billed for the services rendered, upon direction from the referring physician.

- Invoices are sent upon completion of each test/service.
- Invoices are itemized and include the date of service, patient name, CPT code, test name and charge.
- Contact SickKids' Genome Diagnostics Laboratory at 416-813-7200 x1 with billing inquiries.

How to complete the Billing Form:

- Referring Physician completes the appropriate section below to specify billing method.
- Send requisition and completed "Billing Form" with specimen.

Section 1: Complete to have the Healthcare Provider billed:

Referring Laboratory's Reference #: _____

Billing address of hospital, referring laboratory, clinic, referring physician, or medical group (if different from requisition):

Name: _____

Address: _____

City: _____ Prov/State: _____

Postal/Zip Code: _____ Country: _____

Contact Name: _____ Contact Telephone #: _____

Section 2: Complete to have Patient/Guardian billed directly:

If electing to have patient/guardian billed:

- Patient/Guardian billing information below must be complete; otherwise, the healthcare provider will be billed.
- Advise the patient/guardian to expect a bill from the Genome Diagnostics laboratory.
- The patient's valid credit card information must be provided.
- Unfortunately, personal checks are not accepted as a method of payment.
- **In this case, the patient/guardian is solely responsible for the charges.**

Send bill to (check one): Patient Guardian

Method of Payment (check one): American Express MasterCard Visa

Name as it appears on credit card: _____

Credit card #: _____

Expiry date on credit card: _____

Signature of credit card holder (Required): _____

Mailing Address of Patient/Guardian (if different from requisition):

Name: _____

Address: _____

_____ Apt. #: _____

City: _____ Prov/State: _____

Postal/Zip Code: _____ Country: _____

Additional Contact Information

Patient's phone # with area code:

- or -

Guardian's phone # with area code:
