WHOLE EXOME SEQUENCING
DECODE&DISCOVER

BARCODE

SENDER INFORMATION (PRACTICE/CLINIC STAMP)

PRACTICE/CLINIC	STAMP (IF NECESSARY)
STREET	
POSTCODE/CITY	
TEL./FAX/E-MAIL	
RESPONSIBLE MEDICAL PERSON	

PATIENT INFORMATION

FIRST NAME	ADDRESS (STREET NAME, NO., CITY, POSTCODE, COUNTRY)
LAST NAME	TELEPHONE NUMBER (COUNTRY CODE & NUMBER)
DATE OF BIRTH (DD/MM/YYYY)	GENDER (MALE/FEMALE/OTHER - SPECIFY KARYOTYPE)
PERSONAL IDENTIFICATION NO.	SAMPLE COLLECTION DATE (DD/MM/YYYY)

REASON FOR TEST (DIAGNOSIS, PREDICTIVE, CARRIER)

INDICATION/DIAGNOSIS/SUSPICION

IMPORTANT: Postnatal: Please select HPO terms starting on page 3; Prenatal: Please complete page 4 "PRENATAL ANALYSES"

TEST OPTION

- ☐ Postnatal
- ☐ Prenatal

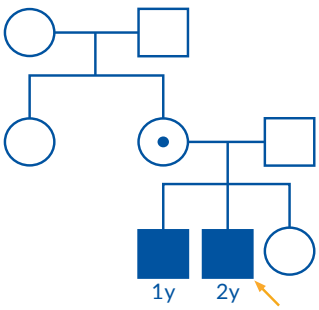
- ☐ Single WES
- ☐ Duo WES
- ☐ Trio WES

TEST MATERIAL

	EDTA blood:	Buccal swab:
Index patient:	☐	☐
Mother:	☐	☐
Father:	☐	☐

PEDIGREE

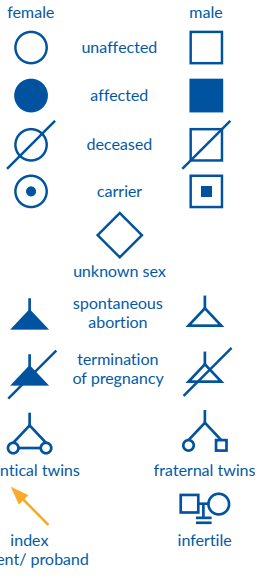
Example of a pedigree:
Global developmental delay of unknown origin



Consanguinity

☐ YES ☐ NO

Please use the indicated symbols



MEDICOVER GENETICS

MVZ Martinsried GmbH
Lochhamer Str.29, 82152 Martinsried, Germany
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DECLARATION OF CONSENT (ACCORDING TO GERMAN GENETIC DIAGNOSTICS ACT, GenDG)

Applicable only for the determination of genetic (hereditary) characteristics

The GenDG requires provision of detailed information and a written consent for all genetic investigations as well as genetic counselling prior to both predictive (applies to healthy individuals) and prenatal testing (with restrictions: prenatal testing is not performed for late manifesting disorders, including Hereditary Cancer Panels). The German Society of Human Genetics (GfH) and the Association of German Human Geneticists (BVDH) recommend clarifying the issues listed below during the information process. Please read the declaration of consent carefully and tick the boxes, in accordance with your consent.

By signing the form below I confirm that I:

- Have been fully informed by my physician about the significance and consequences of the genetic investigation, in compliance with GenDG.
- Have read/have been read the Information for Patients (page 5) which is attached to this form and which I fully understand.
- Have been given sufficient opportunity to discuss open questions.
- Authorize [insert legal entity here] to collect the necessary samples for investigation (blood, tissue, chorionic villus cells or amniotic fluid for prenatal diagnosis) and to send this form to MVZ Martinsried GmbH, Lochhamer Str. 29, 82152 Martinsried, Germany, in order to perform the tests requested through this form.
- Consent to the genetic test being carried out in order to clarify the disease/dysfunction/suspected diagnosis.

YES NO

- ☐ ☐ I agree that the investigation or parts of the investigation may be forwarded to collaborating medical laboratories, if necessary.
- ☐ ☐ I agree with the evaluation of additional genes in the same indication group as part of the research.
- ☐ ☐ I agree that the remaining specimens may be stored for further investigations after the examination is completed, yet not claiming storage.
- ☐ ☐ I agree that the specimens, and if applicable DNA sequence information, may be made available anonymously for quality management and scientific purposes.
- ☐ ☐ I agree that the results of the analysis may be stored for a longer period than the statutory period of 10 years, yet not claiming storage of results.
- ☐ ☐ I agree to the storage and use of my test results under the protection of anonymity in a statistical database used for scientific purposes and to help diagnose genetic diseases. I understand that
- ☐ ☐ I will remain under the protection of anonymity and I cannot be identified during the analysis of the data and that any personal information will be transformed into information of a non-personal nature.

By signing the form below I confirm that:

- I may stop the investigation at any time and ask for the results available until that time to be destroyed.
- I may withdraw any of my consents given through this form entirely or in part at any time without giving reasons.
- I will be charged for the costs incurred until the time of withdrawal of consent.
- I may choose not to be informed about the test results (right not to know).
- I know that the genetic investigation and evaluation is limited to the requested indication and no statements will be made about other diseases.
- All information I have provided is true and correct.

Communication of additional findings found during the course of the research

☐ YES, I wish to be informed about additional findings.
☐ NO, I do not wish to be informed about additional findings.

In addition,

- YES ☐ NO ☐ I agree that a copy of the results of the analysis may be sent to the following physician(s), in accordance with my express requests and according to [insert legal entity here] internal procedures.

DR(S) NAME

STREET

POSTCODE/CITY

COUNTRY

PLACE

DATE

SIGNATURE OF PATIENT OR PARENT/LEGAL GUARDIAN

PHYSICIAN'S SIGNATURE

DUO OR TRIO WES ANALYSES

MOTHER:
FIRST AND LAST NAME

DATE OF BIRTH (DD/MM/YYYY)

FATHER:
FIRST AND LAST NAME

DATE OF BIRTH (DD/MM/YYYY)

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CLINICAL INFORMATION

Please provide as much information as possible regarding your patient's clinical symptoms. This information will be used for bioinformatic filtering of variants that are detected by exome analysis; therefore, the information is crucial to identify causative alterations and to interpret them in the best possible way. Information on symptoms that are not present or investigations that have not been performed can also be helpful. Preferably, create a list of the patient's phenotypic characteristics by HPO terms (Human Phenotype Oncology) using "Phenomizer": http://compbio.charite.de/phenomizer/. Please export the created list as a PDF, print it and attach it to this order form. Alternatively, please select the phenotypic traits as completely as possible from the list below. Since not all available HPO terms can be listed here, and possibly much more differentiated HPO terms exist, please make individual additions accordingly.

POSTNATAL ANALYSES

DEVELOPMENTAL

- ☐ Normal
- ☐ Premature birth (HP:0001622)
- ☐ Intrauterine growth retardation (IUGR, HP:0001511)
- ☐ Polyhydramnios (HP:0001561)
- ☐ Oligohydramnios (HP:0001562)
- ☐ Decreased fetal movement (HP:0001558)
- ☐ Intracranial hemorrhage (HP:0002170)
- ☐ Others:

DEVELOPMENTAL DISABILITIES/DISORDERS

- ☐ Not examined / unknown
- ☐ No developmental defects
- ☐ No intellectual disability
- ☐ Intellectual disability
  ☐ mild, ☐ moderate, ☐ severe
  (HP:0001256, HP:0002342, HP:0010864)
- ☐ Global developmental delay
  ☐ mild, ☐ moderate, ☐ severe
  (HP:0001263, HP:0011343, HP:0011344)
- ☐ Motor delay (HP:0001270)
- ☐ Delayed speech and language development (HP:0000750)
- ☐ Autism (HP:0000717)
- ☐ Developmental regression (HP:0002376)
- ☐ Others:

CRANIOFACIAL ABNORMALITIES

- ☐ Not examined / unknown
- ☐ No craniofacial abnormalities
- ☐ Macrocephaly (HP:000256)
- ☐ Microcephaly (HP:000252)
- ☐ Craniosynostosis (HP:0001363)
- ☐ Broad forehead / Prominent forehead (HP:0000337 / HP:0011220)
- ☐ Oral cleft (HP:0000202)
- ☐ Hypertelorism (HP:0000316)
- ☐ Hypotelorism (HP:0000601)
- ☐ Nasal abnormalities: _____
- ☐ Abnormality of the outer ear (HP:0000356): _____
- ☐ Micrognathia (HP:0000347)
- ☐ Oligodontia (HP:0000677)
- ☐ Others:

BRAIN ABNORMALITIES

- ☐ Not examined / unknown
- ☐ Normal brain MRI
- ☐ Aplasia/Hypoplasia of the corpus callosum (HP:0007370)
- ☐ Agenesis of corpus callosum (HP:0001274)
- ☐ Aplasia/Hypoplasia of the cerebellum (HP:0007360)
- ☐ Aplasia/Hypoplasia of the cerebellar vermis (HP:0006817)
- ☐ Abnormal myelination (HP:0012447)
- ☐ Lissencephaly (HP:0001339)
- ☐ Schizencephaly (HP:0010636)
- ☐ Porencephalic cyst (HP:0002132)
- ☐ Pachygyria (HP:0001302)
- ☐ Polymicrogyria (HP:0002126)
- ☐ Gray matter heterotopia (HP:0002282)
- ☐ Abnormality of the basal ganglia (HP:0002134)
- ☐ Leukoencephalopathy (HP:0002352)
- ☐ Brain atrophy (HP:0012444)
- ☐ Ventriculomegaly (HP:0002119)
- ☐ Hydrocephalus (HP:0000238)
- ☐ Holoprosencephaly (HP:0001360)
- ☐ Others:

RESPIRATORY DIFFICULTIES AND RESPIRATORY SYMPTOMS

- ☐ Not examined / unknown
- ☐ No respiratory abnormalities
- ☐ Respiratory insufficiency (HP:0002093)
- ☐ Respiratory failure (HP:0002878)
- ☐ Recurrent infections (HP:0002719)
- ☐ Bronchiectasis (HP:0002110)
- ☐ Others:

NEUROLOGICAL SYMPTOMS

- ☐ No neurological symptoms
- ☐ Seizures (☐ generalized / ☐ focal)
- ☐ Encephalopathy (HP:0001298)
- ☐ Decreased nerve conduction velocity (HP:0000762)
- ☐ Neuropathy (☐ motor / ☐ sensory)
- ☐ Ataxia (HP:0001251)
- ☐ Tremor (HP:0001337)
- ☐ Dystonia (HP:0001332)
- ☐ Chorea (HP:0002072)
- ☐ Spasticity (HP:0001257)
- ☐ Gait disturbance (HP:0001288)
- ☐ Nystagmus (HP:0000639)
- ☐ Migraine (HP:0002076)
- ☐ Sleep disturbance (HP:0002360)
- ☐ Others:

EYE DEFECTS

- ☐ Not examined / unknown
- ☐ No eye defects
- ☐ Abnormality of vision (HP:0000504):
  _____
  (bilateral? ☐ Yes / ☐ No)
- ☐ Retinopathy (HP:0000488)
- ☐ Anophthalmia (HP:0000528)
  (bilateral? ☐ Yes / ☐ No)
- ☐ Microphthalmos (HP:0007633)
  (bilateral? ☐ Yes / ☐ No)
- ☐ Strabismus (HP:0000486)
  (bilateral? ☐ Yes / ☐ No)
- ☐ Developmental cataract (HP:0000519)
- ☐ Others:

HEARING DEFECTS AND BALANCE DISORDERS

- ☐ Not examined / unknown
- ☐ No hearing defects
- ☐ No balance disorder
- ☐ Sensorineural hearing impairment (HP:0000407)
  (bilateral? ☐ Yes / ☐ No)
- ☐ Conductive hearing impairment (HP:0000405)
- ☐ Vestibular dysfunction: (HP:0001751)
- ☐ Others:

MUSCULOSKELETAL DISORDERS

- ☐ Not examined / unknown
- ☐ No muscular abnormalities
- ☐ No skeletal abnormalities
- ☐ Hypotonia (HP:0001252)
- ☐ Hypertonia (HP:0001276)
- ☐ Elevated circulating creatine kinase concentration (HP:0003236)
- ☐ Ptosis (HP:0000508)
- ☐ Distal arthrogryposis (HP:0005684)
- ☐ Arthrogryposis multiplex congenita (HP:0002804)
- ☐ Short stature (HP:0004322)
- ☐ Skeletal dysplasia (HP:0002652)
- ☐ Tall stature (HP:0000098)
- ☐ Joint hypermobility (HP:0001382)
- ☐ Hand polydactyly / ☐ Foot polydactyly (HP:0001161/HP:0001829)
- ☐ Hand syndactyly / ☐ Foot syndactyly, specify: _____
- ☐ Camptodactyly of finger (HP:0100490)
- ☐ Talipes (HP:0001883)
- ☐ Scoliosis (HP:0002650)
- ☐ Pectus carinatum (HP:0000768)
- ☐ Increased bone mineral density (HP:0011001)
- ☐ Osteoporosis (HP:0000939)
- ☐ Delayed skeletal maturation (HP:0002750)
- ☐ Multiple exostoses (HP:0002762)
- ☐ Others:

CARDIOVASCULAR DISEASES

- ☐ Not examined / unknown
- ☐ No cardiovascular abnormalities
- ☐ Atrial septal defect (HP:0001631)
- ☐ Ventricular septal defect (HP:0001629)
- ☐ Pulmonic stenosis (HP:0001642)
- ☐ Heart defect: _____
- ☐ Cardiomyopathy: _____
- ☐ Hypertrophic cardiomyopathy (HP:0001639)
- ☐ Dilated cardiomyopathy (HP:0001644)
- ☐ Arrhythmia (HP:0011675)
- ☐ Aortic aneurysm (HP:0004942)
- ☐ Abnormality of the vasculature (HP:0002597)
- ☐ Pulmonary arterial hypertension (HP:0002092)
- ☐ Others:

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CLINICAL INFORMATION

IMMUNOLOGICAL AND HEMATOLOGICAL ABNORMALITIES

- ☐ Not examined / unknown
- ☐ No immunological abnormalities
- ☐ No hematological abnormalities
- ☐ Abnormal inflammatory response (HP:0012647)
- ☐ Immunodeficiency (HP:0002721)
- ☐ Recurrent infections (HP:0002719)
- ☐ Anemia (HP:0001903): _____
- ☐ Neutropenia (HP:0001875)
- ☐ Thrombocytopenia (HP:0001873)
- ☐ Abnormality of coagulation (HP:0001928)
- ☐ Abnormality of circulating enzyme level (Abnormality of iron homeostasis HP:0011021)
- ☐ Others:

ABNORMALITIES OF THE SKIN, NAILS AND HAIR

- ☐ No abnormalities of the skin, nails and hair
- ☐ Multiple cafe-au-lait spots (HP:0007565)
- ☐ Nevus (HP:0003764)
- ☐ Albinism (HP:0001022)
- ☐ Hypopigmentation of the skin (HP:0001010)
- ☐ Hyperpigmentation of the skin (HP:0000953)
- ☐ Eczema (HP:0000964)
- ☐ Ichthyosis (HP:0008064)
- ☐ Nail dysplasia (HP:0002164)
- ☐ Anhidrosis (HP:0000970)
- ☐ Hyperhidrosis (HP:0000975)
- ☐ Alopecia (HP:0001596)
- ☐ Hypertrichosis (HP:0000998)
- ☐ Others:

METABOLIC AND ENDOCRINE ABNORMALITIES

- ☐ Not examined / unknown
- ☐ No metabolic abnormalities
- ☐ No endocrine abnormalities
- ☐ Failure to thrive (HP:0001508)
- ☐ Hemihypertrophy (HP:0001528)
- ☐ Obesity (HP:0001513)
- ☐ Abnormality of the mitochondrion (HP:0012103)
- ☐ Lactic acidosis (HP:0003128)
- ☐ Proteinuria (HP:0000093)
- ☐ Hyperglycemia (HP:0003074)
- ☐ Hypoglycemia (HP:0001943)
- ☐ Ketosis (HP:0001946)
- ☐ Diabetes mellitus (HP:0000819)
- ☐ Nephrogenic diabetes insipidus (HP:0009806)
- ☐ Hypothyroidism (HP:0000821)
- ☐ Hypercalcemia (HP:0003072)
- ☐ Hypoparathyroidism (HP:0000829)
- ☐ Exocrine pancreatic insufficiency (HP:0001738)
- ☐ Hypogonadism (HP:0000135)
- ☐ Others:

ABNORMALITIES OF THE KIDNEY AND UROGENITAL TRACT

- ☐ No renal abnormalities
- ☐ No urogenital abnormalities
- ☐ Not examined / unknown
- ☐ Renal agenesis (HP:0000104)
- ☐ Renal dysplasia (HP:0000110)
- ☐ Renal cyst (HP:0000107)
- ☐ Hematuria (HP:0000790)
- ☐ Proteinuria (HP:0000093)
- ☐ Hypospadias (HP:0000047)
- ☐ Cryptorchidism (HP:0000028)
- ☐ Ambiguous genitalia (HP:0000062)
- ☐ Others:

OTHER ABNORMALITIES

PRENATAL ANALYSES

(Please contact us via: exom-support@medicover.com before ordering a prenatal analysis)

Prenatal trio exomes are only analyzed for variants in known disease-associated genes (clinical exome). The focus of this analysis is on genes that are associated with the abnormalities in the ultrasound and the suspected diagnosis. Only variants that are classified as likely pathogenic (class 4) or pathogenic (class 5) according to ACMG criteria are reported.

- Gestational age (week + day) according to ultrasound: _____ + _____
- Number of fetuses: _____
- Sex of fetus: ☐ Female ☐ Male ☐ Unknown
- Gender information ☐ Yes ☐ No
- Ultrasound abnormalities (please attach ultrasound findings):

SKELETAL MALFORMATIONS

- ☐ Skeletal dysplasias
- ☐ Craniosynostoses
- ☐ Limb malformations
- ☐ Others: _____

BRAIN ABNORMALITIES

- ☐ Holoprosencephaly (HP:0001360)
- ☐ Agenesis of corpus callosum (HP:0001274)
- ☐ Abnormal cortical gyration (HP:0002536)
- ☐ Microcephaly (HP:0000252)
- ☐ Encephalocele (HP:0002084)
- ☐ Neural tube defect/Spina bifida (HP:0002414)
- ☐ Others: _____

RENAL MALFORMATION

- ☐ Polycystic kidney dysplasia (HP:000113)
- ☐ Renal dysplasia and abnormality of the lower urinary tract (CAKUT) (HP:0000110, HP:0010936)
- ☐ Others: _____

CARDIOVASCULAR DISEASES

- ☐ Abnormal heart morphology (HP:0001627)
- ☐ Cardiomyopathy (HP:0001638)
- ☐ Arrhythmia (HP:0011675)
- ☐ ASD (HP:0001631)
- ☐ VSD (HP:0001629)
- ☐ Atrioventricular canal defect (HP:0006695)
- ☐ Tetralogy of Fallot (HP:0001636)
- ☐ Dextrocardia (HP:0001651)
- ☐ Others: _____

- ☐ Hydrops fetalis (HP:0001789)
- ☐ Fetal akinesia sequence (HP:0001989)
- ☐ Increased NT >3,5mm
- ☐ Noonan syndrome suspected
- ☐ Intrauterine growth retardation (HP:0001511)
- ☐ Short stature (HP:0004322)
- ☐ Omphalocele (HP:0001539)
- ☐ Duodenal stenosis (HP:0100867)
- ☐ Echogenic fetal bowel (HP:0010943)
- ☐ Congenital diaphragmatic hernia (HP:0000776)
- ☐ Abdominal situs inversus (HP:0003363)
- ☐ Situs inversus totalis (HP:0001696)
- ☐ Cleft lip / palate
- ☐ Microphthalmos (HP:0007633)
- ☐ Anophthalmia (HP:0000528)

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INFORMATION FOR PATIENTS

BARCODE

PATIENT INFORMATION

FIRST NAME	GENDER (MALE/FEMALE/OTHER - SPECIFY KARYOTYPE)
LAST NAME	TELEPHONE NUMBER (COUNTRY CODE & NUMBER)
DATE OF BIRTH (DD/MM/YYYY)	E-MAIL ADDRESS
INDICATION/DIAGNOSIS/SUSPICION	

Genetic counselling or counselling by the ordering physician is necessary before ordering a test in order to inform the patient of all of the possible outcomes and the limitations of the genetic test.

I understand that I will be tested for:
(to be filled in by physician)

I understand that the biological sample will be used to determine if I, or members of my family, are carriers of a genetic variant causing the disease, or are carriers of the disease, or have an increased risk of developing a disease.

The role of genetic testing. In many cases, a genetic test can directly detect a genetic alteration. Molecular tests can identify structural changes in the DNA (variants). Cytogenetic tests identify the chromosomal changes (structural or numerical). The sensitivity and specificity of each test varies. The tests offered are complex analyses and are performed using high-end equipment. The methods are externally validated, but there is a minimal possibility of errors.

The significance of the results. If the result is identified as being directly causative of the clinical manifestations, it is considered to be conclusive. If the test does not identify the causative mutations of the clinical manifestations, it is considered to be inconclusive and this does not preclude other genetic changes (or non-genetic factors) responsible for the disease (a genetic disease or susceptibility to a genetic condition is not excluded). Therefore, an inconclusive result (no causative mutation identified) does not exclude the existence of other pathogenic genetic changes (variants) not tested through the current analysis.
Interpretation of the genetic results relies on a complete clinical picture of the patient, including clinical manifestations, family medical history and previous diagnoses. An error in diagnosis could occur due to a clinical picture that is different from that declared. In addition, the test can identify a possible nonpaternity. The test results will be forwarded to the patient by the geneticist or ordering physician and are confidential.

Incidental findings. Genetic testing can provide information unrelated to the purpose of the test, but that may have medical importance for the patient or family (information correlated with an increased risk for incurable disorders).

Use of the sample/result. The sample provided will be used solely for the purpose of the test and for which I have given my written consent.
Test results can also be used for research and to improve the diagnosis and treatment of genetic diseases.

The genetic material can be used for other purposes only with my prior express written consent.

Post-testing genetic counselling. A conclusive result may offer the patient information on the susceptibility, diagnosis, possible prognosis and/or heritability of the disease. An inconclusive result may lead to confusion and anxiety or may suggest the need for further genetic testing. Therefore, post-testing genetic counselling is advised for the clinical interpretation of the results.

By my signature, I hereby certify that:

1. I have been informed of the nature and purpose of the genetic test.
2. I have been informed of the benefits and limitations of the genetic test by _____ (name of physician).
3. I have been informed that the genetic test can provide information/results which have no connection with the purpose of testing. I understand that only I decide if I want those additional results to be provided.
4. I have received clear answers to my questions in relation to the genetic test.
5. I have received a copy of this form.
6. I agree to provide a sample for the above mentioned genetic test.

Completed by: ☐ Parent/Legal Guardian ☐ Patient

FIRST NAME

LAST NAME

DATE OF COMPLETION

SIGNATURE

I have explained the risks and benefits of the test as well as alternative test methods to the parent/legal guardian. I have answered all the questions from the parent/legal guardian.

Name of the ordering physician

FIRST NAME

LAST NAME

SIGNATURE OF THE ORDERING PHYSICIAN

DATE OF SIGNATURE

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