Alberta Health Services

Array CGH Analysis (microarray) Requisition

Last Name	First Name	
Birthdate *(yyyy-Mon-dd)*		Sex ☐ M ☐ F
PHN/ULI#	Patient's Postal Code	

For other cytogenetics or molecular diagnostic genetics testing, please complete the appropriate requisition form.

Indicate the appropriate Genetic Laboratory Services - Cytogenetics location:

☐ **Red Deer and South**
Cytogenetics Lab
Alberta Children's Hospital
2888 Shaganappi Trail
Calgary, AB Canada T3B 6A8
Phone: 403.955.7375
Fax: 403.955.3000

☐ **North of Red Deer**
Edmonton Cytogenetics Lab
c/o Specimen Receiving, 4B2.10
University of Alberta Hospital
Edmonton, AB Canada T6G 2B7
Phone: 780.407.1542
Fax: 780.407.3059

Complete requisition and send a hard copy along with blood samples.

Sample Requirement *(Peripheral Blood)*

- 1 tube NaHep *(green top)*
- 1 tube EDTA *(lavender top)*

Each tube should contain 3 – 5 mL whole blood, *(for neonates, 1 – 3 mL in each tube is acceptable)* in vacutainer, transported at room temperature

Reports to *(Only physicians, clinics or hospitals listed will receive reports)*

_____

Clinical Information *(must be completed to avoid delays in processing)*

Patient clinical features *(check all that apply)*

☐ Developmental Delay/MR
☐ Prenatal growth retardation
☐ Postnatal growth anomalies *(specify)* _____
☐ Dysmorphic features *(specify)* _____
_____
☐ Congenital anomalies
☐ CNS ☐ Heart ☐ Limbs
☐ Renal ☐ Genital
☐ Other *(specify)* _____
☐ Neurological issues:
☐ Seizures ☐ Autism ☐ Hypotonia
☐ Other *(specify)* _____
☐ Other, please specify _____
_____

☐ Parent of a patient with abnormal array CGH results
Give lab # of proband _____

Has previous cytogenetic or FISH analysis been conducted on this patient?
☐ Yes
☐ No
☐ Unknown
Lab number/other details _____

Relevant family history
_____
_____
_____
_____
_____

Pre-test Counselling Confirmation

I have reviewed the Pre-test Counselling Information with the patient/guardian.

Clinical Geneticist /Physician Name *(print)*	Signature	Date *(yyyy-Mon-dd)*

For Laboratory Use Only

Lab number	Date received *(yyyy-Mon-dd)*	Initials	Specimen comments
Collected by *(print name)*	Date collected *(yyyy-Mon-dd)*		

Pre-test Counselling Information
(Array CGH Analysis [microarray] Requisition)

It is recommended that the following points be discussed with the patient and /or guardian(s) prior to ordering array CGH testing.

1. Array CGH is a DNA based test. Blood or tissue samples will be collected and DNA will be extracted. (One of the tubes of blood will also be cultured for follow-up or confirmatory testing). After testing has been completed, any remaining DNA will be banked indefinitely in the laboratory. This DNA may be used for future test validation, and/or technical development.

2. Array CGH is designed to detect gains or losses across the genome at a higher resolution than is possible by traditional karyotyping. Detection is limited by the design of the commercially available array. The arrays are built using a commercial platform (Agilent Technologies) which targets regions of known microdeletion/duplication syndromes and gene-rich areas.

   Array CGH testing will NOT detect the following abnormalities:
   - Balanced chromosomal rearrangements, such as inversions.
   - Translocations including Reciprocal and Robertsonian
   - Polyploidy
   - Genomic imbalances of regions that are not represented on the microarray
   - Low level mosaicism
   - Repeat regions, including the short arms of the acrocentrics and Yq heterochromatin.

3. Accurate interpretation of the patient's array CGH test results may require confirmation by one or more methods, including fluorescence in situ hybridization targeted to the region identified. This can usually be performed on the second tube of blood (Na-Heparin) initially collected, but an additional sample could be required.

4. Analysis of parental blood specimens may be required to help interpret the patient's array CGH results.

5. Detected genomic imbalances will be compared to a database of known copy number variations (CNVs) observed in the general population. In some cases, an identified CNV in a patient will have unknown clinical significance.

6. Genetic conditions can be caused by other mechanisms (eg. single gene mutations) and therefore may not be clinically ruled out based on a normal array CGH test result.

7. Array CGH analysis may reveal information beyond the intended purpose of diagnosis. This may include, but is not limited to presymptomatic disease susceptibility, cancer predisposition or non-paternity.

8. Abnormal results or results of unknown significance may be entered anonymously into an international database with limited clinical information provided from the requisition.

9. Participation in genetic testing is completely voluntary. Patients may withdraw consent or request that their DNA samples be discarded at any time.