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| <b>DATE:</b> | 3 September 2024   |
| <b>TO:</b>   | All Zones  |
| <b>FROM:</b> | Genetics and Genomics, APL   |
| <b>RE:</b>   | <b>Replacement of Cytogenetic Analysis Breakage Testing with Fanconi Anemia and DNA Repair Disorders Panel</b> |

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## PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

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### Key Message

- Effective September 3, 2024, chromosome breakage testing performed by the Cytogenetics laboratory will no longer be available. If chromosome breakage testing is clinically indicated for your patient, the Fanconi anemia and DNA Repair Disorders NGS Panel testing may be ordered.

### Background

- Previously, the G&G Cytogenetics South laboratory performed cytogenetic chromosome breakage testing for patients presenting with clinical features suggestive of Fanconi anemia or other chromosome breakage disorders. More extensive NGS-based testing is currently being offered by APL through the Fanconi anemia and the DNA Repair Disorders Panel.

### How this will impact you

- Cytogenetic chromosome breakage testing will no longer be available in Alberta. The first-tier test for individuals with clinical features of Fanconi anemia or DNA repair disorders will be the Fanconi anemia and DNA Repair Disorders NGS Panel.
- Cytogenetic chromosome breakage analysis (functional testing) for variants of uncertain clinical significance identified by the panel can be ordered through the Genetics Resource Center.

### Action Required

- Refer to the test directory for current information on the DNA Repair Disorder Panel [Alberta Precision Laboratories | Lab Services \(albertalabservices.ca\)](https://www.albertalabservices.ca)
- To order in Connect Care select the test **Fanconi Anemia and DNA Repair Disorders Panel**
- To order using a requisition complete a Molecular Genetics Cancer and Endocrine Next Generation Sequencing Requisition. The test can be found in **Section VI – Cancer and Endocrine NGS Panel Requests**, under **Hematological Cancers** select **Fanconi Anemia and DNA Repair Disorders Panel**
- The Molecular Genetics Cancer and Endocrine Next Generation Sequencing Requisition can be accessed from the following sources:
  - [APL Test Directory - Fanconi Anemia and DNA Repair Disorders Panel](#)
  - [Molecular Genetics Laboratory Cancer and Endocrine NGS Requisition \(albertahealthservices.ca\)](https://www.albertahealthservices.ca)
  - [APL Genetics and Genomics webpage](#)



- Clinical Genetics, Hematology, Oncology, and Pediatrics can order the Fanconi Anemia and DNA repair disorders panel for patients meeting the following criteria:
  - <sup>1</sup>patient has signs or symptoms of the disease/disorder
  - <sup>2</sup>patient does not presently have symptoms but has a positive family history of the condition.

**Effective      September 3, 2024**

**Questions/Concerns**

- G&G North Genetic Counsellors at 780-407-1015
- G&G South Genetic Counsellors at 403-955-3097

**Approved by**

- Dr. Dennis Bulman, Medical/Scientific Director, Genetics and Genomics, APL
- Dr. Carolyn O'Hara, Chief Medical Laboratory Officer (Interim), APL

*Effective September 1, 2023, APL has become the sole provider of all public lab services in Alberta. As a result, community lab services formally provided by DynaLIFE Medical Labs will become the responsibility of Alberta Precision Labs (APL). This change impacts all zones.*