Guidelines for Ordering Alpha Thalassemia Testing

All listed elements are **required** for testing to be performed.

<table>
<thead>
<tr>
<th>Criteria for Testing</th>
<th>Documentation (must accompany sample and requisition)</th>
<th>Samples</th>
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</thead>
</table>
| **Alpha Globin Deletion Analysis** | There is an ongoing pregnancy that is at risk for alpha thalassemia because  
- both members of the couple are proven carriers  
OR  
the fetus has ultrasound features suggestive of alpha thalassemia.  
- the couple is considering invasive prenatal diagnosis. | All relevant test results of both parents:  
- CBC  
- hemoglobinopathy screening (haemoglobin HPLC, electrophoresis, or equivalent)  
- Calgary Laboratory Services alpha globin molecular report |  
- Blood samples from both parents for molecular confirmation of their alpha globin deletions (unless previously tested by MDL)  
- Fetal sample as indicated and available  
- Completed Calgary Molecular Diagnostic Laboratory requisition with each sample ([www.albertahealthservices.ca/3310.asp](http://www.albertahealthservices.ca/3310.asp))  
- Indicate Test Requested = Other: alpha globin deletion analysis |
| **Alpha Globin Sequencing** | The haematological screen is consistent with alpha thalassemia and / or carrier status but alpha globin deletion testing does not explain the clinical presentation  
OR  
The patient is at risk to be a carrier of a non-deletion alpha globin mutation based on family history. (Documentation of the familial mutation is required.) | All relevant patient test results:  
- CBC  
- hemoglobinopathy screening (haemoglobin HPLC, electrophoresis, or equivalent)  
- Calgary Laboratory Services alpha globin molecular report |  
- Blood sample from the patient  
- Completed Calgary Molecular Diagnostic Laboratory requisition ([www.albertahealthservices.ca/3310.asp](http://www.albertahealthservices.ca/3310.asp))  
- Indicate Test Requested = Other: alpha globin sequencing |

**Test Turnaround Times**
- Prenatal Testing: 1-2 weeks  
- Non-Prenatal Testing: 6-8 weeks

**Test Reports**
Test results are provided only to the ordering health care provider.  
Note: Results are not currently available on Alberta Netcare.

**Inquiries**
Inquiries regarding alpha globin testing may be directed to the Genetic Laboratory Services Genetic Counsellors by phone at 403.955.3097