# ACTH STIMULATION TEST, PLASMA/ SERUM

## Orderable – See Collection Information

**Turn Around Time:** 4 hours for cortisol; 5 days for ACTH

### Alternate Name(s):

Cosyntropin Test

### Specimen:

#### FOR ACTH TESTING:

<table>
<thead>
<tr>
<th>Adult</th>
<th>Pediatric</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 mL Lavender top (EDTA) Vacutainer tube</td>
<td>0-2 years: 0.5 mL Lavender top (EDTA) Microtainer</td>
</tr>
<tr>
<td></td>
<td>2-10 years: 2 mL Lavender top (EDTA) Vacutainer tube</td>
</tr>
<tr>
<td></td>
<td>Red, Gold, or Light Green (Li-heparin) top tubes are NOT acceptable.</td>
</tr>
</tbody>
</table>

#### FOR CORTISOL TESTING:

<table>
<thead>
<tr>
<th>Adult</th>
<th>Pediatric</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5 mL Light Green top (Li-Heparin) Vacutainer tube</td>
<td>0-2 years: 0.5 mL Light Green top (Li-Heparin) Microtainer</td>
</tr>
<tr>
<td></td>
<td>2-10 years: 3 mL Light Green top (Li-Heparin) Vacutainer tube</td>
</tr>
<tr>
<td></td>
<td>Red, Gold, or Lavender (EDTA) top tubes are also acceptable</td>
</tr>
</tbody>
</table>

### FOR TESTING OF OTHER ANALYTES:

Please consult the Laboratory Test Information Guide entries for those analytes to determine the appropriate specimen type.

### Collection Information:

Choose from (.ACTH0MST, .CORM30MST, .CORM15MST, .COR0MST, .COR15MST, .COR30MST, .COR45MST, .COR60MST, .COR75MST, .COR90MST, .COR105MST, .COR120MST, .COR180MST, .COR240MST, ACTHST) as appropriate and also include other analytes as appropriate.

### FOR ACTH TESTING:
ACTH STIMULATION TEST, PLASMA/SERUM

Pre-chill Vacutainer, place on ice immediately after blood collection, and deliver to lab immediately.

Minimum volume of plasma required is 700 µL for adult samples or 200 µL for pediatric samples.

**FOR CORTISOL TESTING:**

Minimum volume of plasma or serum required is 700 µL for adult samples or 200 µL for pediatric samples.

**FOR TESTING OF OTHER ANALYTES:**

Please consult the Laboratory Test Information Guide entries for those analytes to determine the appropriate collection information.

**Reference Ranges:**

Interpretation of this test is based on the clinical circumstances, other medications and the formulation of ACTH used for this stimulation challenge.

**Special Processing:**

**FOR ACTH TESTING:**

Use a refrigerated centrifuge to separate plasma. Analyze samples immediately or freeze them at -20 °C.

**Comments:**

Biotin may interfere with the cortisol and ACTH tests. Samples should not be taken from patients receiving high biotin doses (i.e. > 5 mg/day) until at least 8 hours after the last biotin administration.

Oral contraceptives, pregnancy, or estrogen therapy cause elevated plasma cortisol levels due to an increase in binding proteins.

Patients suffering from 21-hydroxylase deficiency exhibit elevated 21-deoxycortisol levels and this can cause falsely elevated cortisol results.

**Storage and Shipment:**

**FOR ACTH TESTING:**

Store and ship plasma frozen.