Comprehensive testing for various forms of vitamin D can assist in evaluating the effectiveness of treatments for vitamin D deficiency.

Clinical Application
- Vitamin D is a hormone that facilitates mineral metabolism, bone growth, and the intestinal absorption of calcium.¹
- A 25-OH vitamin D level of greater than 30 ng/mL is considered sufficient for ensuring bone health.¹
- Total 25-hydroxyvitamin D has been considered the recommended indicator of vitamin D status in those at risk for vitamin D deficiency.¹

LabCorp has several testing options available that use highly specific tandem mass spectrometry method (HPLC/MS-MS) technology to help evaluate the effectiveness of treatment for vitamin D insufficiency.

- **Vitamin D, 25-Hydroxy** provides results that can assist with monitoring 25-OH D₃ and supplemental 25-OH D₂.
  - The assay is certified by the Centers for Disease Control Vitamin D Standardization Certification Program (VDSCP) for accuracy and precision.
  - Isotope dilution tandem MS with LC after extraction has been used as the 25-OH vitamin D₂ reference method² and offers sensitivity down to 1 ng/mL.³
  - The assay measures both vitamin D₂ and vitamin D₃ and reports values for total and fractionated results.

- **3-Epi-Vitamin D, 25-Hydroxy** can assist with evaluating patients suspected of having clinically significant levels of 3-epi-25-OH vitamin D.
  - Epimers at the C-3 position of 25-OH vitamin D have been reported at low concentration in adults and higher variable concentrations in infants.⁴
  - The assay reports results for total and fractionated 3-epi-25-OH D₂ and 3-epi-25-OH D₃.

- **Calciferols (Precursor to 25-Hydroxyvitamin D)** can be helpful in evaluating patients for fat malabsorption issues or a variety of gastrointestinal diseases.⁵
  - Precursor to 25-hydroxyvitamin D.
  - Levels of calciferols can also assist in evaluating biliary cirrhosis and patient noncompliance with administration of supplemental vitamin D.⁶
  - Ergocalciferol (vitamin D₂) is present due to dietary or other exogenous administration.
  - Cholecalciferol (vitamin D₃) is present based on endogenous production from cholesterol with the aid of sunlight or due to the ingestion of vitamin D-fortified food and supplements.
  - The assay measures ergocalciferol (vitamin D₂) and cholecalciferol (vitamin D₃) levels in serum.

Scientific Expertise
- Industry leading Endocrine Sciences laboratory with a history spanning more than 40 years
- Extensive test menu for parathyroid disorders and bone metabolism, including specialized profile testing for osteoporosis
- Assay methods developed, validated, and maintained onsite by PhD-level scientists
- Complete normative data for some assays from infants to elderly adults
- PhD and MD consultation available
Superior Service

- Comprehensive services for the endocrinology specialist
- 60-day storage for serum and plasma specimens tested at Endocrine Sciences
- Broad network of managed care health plans
- Flexible connectivity options for test ordering and result reporting
- Patient service centers available nationwide
- Courier and logistics services
- Local sales representation

References

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Vitamin D, 25-Hydroxy</th>
<th>3-Epi-Vitamin D, 25-Hydroxy</th>
<th>Calciferols (Precursor to 25-hydroxyvitamin D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test N°</td>
<td>500116</td>
<td>503580</td>
<td>503835</td>
</tr>
<tr>
<td>Method</td>
<td>HPLC/MS-MS</td>
<td>HPLC/MS-MS</td>
<td>HPLC/MS-MS</td>
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<tr>
<td>Specimen Requirement</td>
<td>1.0 mL serum or plasma Minimum 0.5 mL</td>
<td>0.6 mL serum (preferred) or plasma Minimum 0.3 mL</td>
<td>1.0 mL serum (preferred) or plasma Minimum 0.5 mL</td>
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<tr>
<td>Result Turnaround</td>
<td>3 – 5 days</td>
<td>5 – 7 days</td>
<td>5 – 7 days</td>
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<tr>
<td>Performing Laboratory</td>
<td>Endocrine Sciences</td>
<td>Endocrine Sciences</td>
<td>Endocrine Sciences</td>
</tr>
<tr>
<td>Reference Intervals</td>
<td>All Ages: Target levels 32 – 100 ng/mL</td>
<td>Percent 3-epi-25-OH Vitamin D: Infants (&lt;1y): &lt;40% Children and Adults: &lt;9%</td>
<td>Adults: &lt;52 ng/mL If evaluating malabsorption: Increase of 50+ ng/mL above baseline levels.</td>
</tr>
</tbody>
</table>

Esoterix Direct Accounts: Please use the Esoterix test number for the following:

- 500337 Vitamin D, 25-Hydroxy
- 803580 3-Epi-Vitamin D, 25-Hydroxy
- 803835 Calciferols (Precursor to 25-hydroxyvitamin D)

Please contact your local account representative for more information.