LABupdate

TESTOSTERONE BY MASS SPECTROMETRY

LabCorp's total testosterone by liquid chromatography and tandem mass spectrometry (LC/MS-MS) is certified by the Centers for Disease Control (CDC) Hormone Standardization (HoSt) Program. This assay provides a more accurate testosterone measurement at very low concentrations common among women, children, and hypogonadal men.

Total testosterone by high-performance liquid chromatography and tandem mass spectrometry (test No.070001) is a highly sensitive and specific method for testosterone measurement in patients with low testosterone levels.

- Developed using state-of-the-art technology by expert scientists
- Harmonized with the current testosterone immunoassay
- Used as an aid in diagnosis of androgen dysfunction in females and children, as well as for monitoring male patients diagnosed with hypogonadism[1]
  - These patients generally have low testosterone concentrations. Mass spectrometry yields the improved sensitivity and specificity important for these patients.[1]
- Complete reference intervals are provided for adults and children, including Tanner stages.

LabCorp's HoSt certification is published on the CDC Web site at www.cdc.gov/labstandards/doc/HoSt_Report.pdf. The Endocrine Society and other organizations endorsed the consensus statement that led to the development of the CDC's HoSt program.[2] CDC certification positions LabCorp's methodology among the benchmark assays for testosterone measurement. A 2012 study published in *Clinical Chemistry* analyzed samples from laboratories participating in the CDC Hormone Standardization (HoSt) program.[3] Of the 11 participating labs that enrolled and analyzed 4 consecutive sample sets provided by the CDC in 2010, only 8 labs (73%) met the stringent CDC criteria.[3] Five of those 8 labs agreed to share their data for publication in the 2012 study referenced. LabCorp's mass spectrometry assay was the only assay of those five to achieve a 100% rate for desirable total errors.[3]

LabCorp also offers a comprehensive menu of endocrine assays utilizing LC/MS-MS methodologies. Please refer to the Directory of Services and Interpretive Guide – or visit www.LabCorp.com/testmenu – for details.

Testosterone, Total, Women, Children, and Hypogonadal Males, LC/MS-MS **070001**

Available Profiles (using mass spectrometry)

Testosterone, Free, Equilibrium Ultrafiltration With Total Testosterone by LC/MS-MS	**070038**
Testosterone, Free (Direct) With Total Testosterone by LC/MS-MS	**070195**
Testosterone, Free and Weakly Bound, With Total Testosterone by LC/MS-MS	**070282**

References

1. Rosner W, Auchus RJ, Azziz R, Sluss PM, Raff H. Utility, limitations, and pitfalls in measuring testosterone: an Endocrine Society Position Statement. *J Clin Endocrinol Metab.* 2007;92:405-413.
2. Rosner W, Vesper H. Toward excellence in testosterone testing: A Consensus Statement. *J Clin Endocrinol Metab.* 2010;95(10):4542-4548.
3. Yun Y-M, Botelho JC, Chandler DW, et al. Performance criteria for testosterone measurements based on biological variation in adult males: recommendations from the partnership for the accurate testing of hormones. *Clin Chem.* 2012;58

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