SENSITIVE ASSAY FOR 5α-DIHYDROTESTOSTERONE

DIAGNOSTICS

High-throughput assay for detection of keto-steroid hormones at low concentration levels with improved accuracy.

TECHNOLOGY TYPE
Assay Platform
Endocrinology and Metabolism

STAGE OF DEVELOPMENT
Applied in a clinical reference laboratory setting.

IP PROTECTION
U.S. Utility Patent Issued
Enhanced Sensitivity for Analysis of Carbonyl Containing Compounds Using Mass Spectrometry
US9834578B2

TECHNOLOGY SUMMARY
Circulating androgen 5a-dihydrotestosterone (DHT) is a major indicator of benign prostatic hyperplasia, which affects over three million men each year in the United States and can lead to prostate cancer. Immunoassays for testosterone and other androgens, however, are often inaccurate due to analytical interference and inaccurate results at low concentrations.

A simple, high-throughput assay uses specific derivitizing agents to improve detection of keto-steroids, such as DHT. The assay utilizes two-dimensional liquid chromatography-tandem mass spectrometry for simultaneous measurement of androstenedione, dehydroepiandrosterone, and testosterone. This method has enhanced ionization efficiency and can detect analytes at low concentration levels.

FEATURES AND BENEFITS

• Enables low level detection, including determination of free steroid hormone at pg/mL sensitivity.
• Improves ionization efficiency and fragmentation yield.
• Demonstrates potential application for analysis of any keto-steroid hormone.

RECENT PUBLICATIONS

INVENTOR PROFILE
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