

CAMAG DBS-MS 500

FULLY AUTOMATED DRIED BLOOD
SPOT EXTRACTION SYSTEM

APPLICATION IN HEALTHCARE:
TESTOSTERONE MONITORING

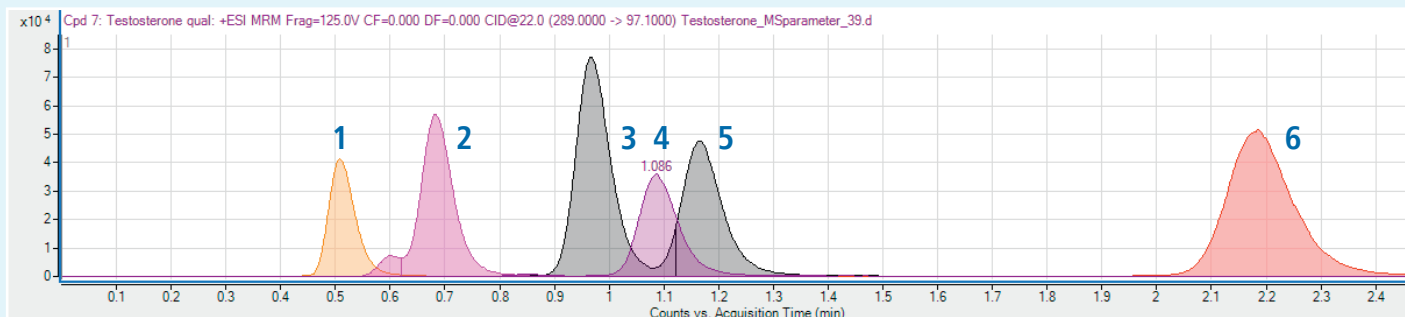


- High throughput analysis of up to 500 DBS cards per run
- Integrated optical card recognition and barcode reading module
- Automated internal standard application module
- Unique extraction module with wash station to eliminate carry-over
- Online coupling to analysis system (LC-MS, MS or Sample Collector)
- Full control through Chronos software

FULLY AUTOMATED DBS-LC-MS/MS METHOD: TESTOSTERONE MONITORING

Healthcare biomarkers are important factors to determine a person's general health and well-being. Here, a fully automated DBS-LC-MS/MS method was developed for the separation of Testosterone, Cortisol, 21,11-Deoxycortisol, Corticosterone, 17-OHP,

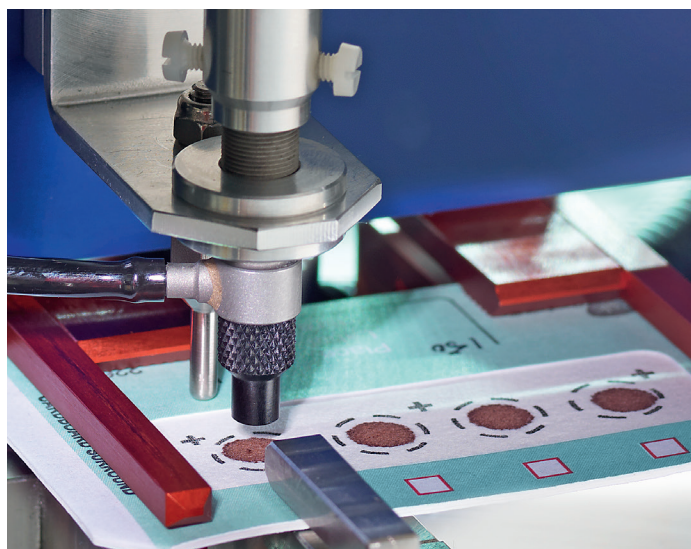
11-Deoxycorticosterone and Progesterone. All compounds can be specifically identified from dried blood spots within 2.5 minutes per sample directly from a DBS filter card without any manual handling or preparation.



1	Cortisol	3	11-Deoxycorticosterone	5	17-OHP
2	21,11-Deoxycortisol, Corticosterone	4	Testosterone	6	Progesterone

Special focus was Testosterone, which is a hormone produced by the testicles and which is responsible for the proper development of male sexual characteristics. Testosterone is also important for maintaining muscle

bulk, adequate levels of red blood cells, bone growth, a sense of well-being and sexual function. Low testosterone levels in men can lead to cancer, inflammatory diseases, chronic illness, stress, obesity and further.



The limit of quantification (LOQ) of the approach was 100 ng/dl for testosterone. The LOQ was at the lower end of the average endogenous concentration of an adult man.

Precise quantification of testosterone was achieved by spraying a ¹³C labeled testosterone standard onto the DBS prior the extraction. This procedure is documented as the gold standard in literature [Paul Abu-Rabie et al, Anal. Chem. 2015, 87, 4996–5003]. The CAMAG DBS-MS 500 contains a high precision standard sprayer which has been incorporated into the fully automated workflow.

