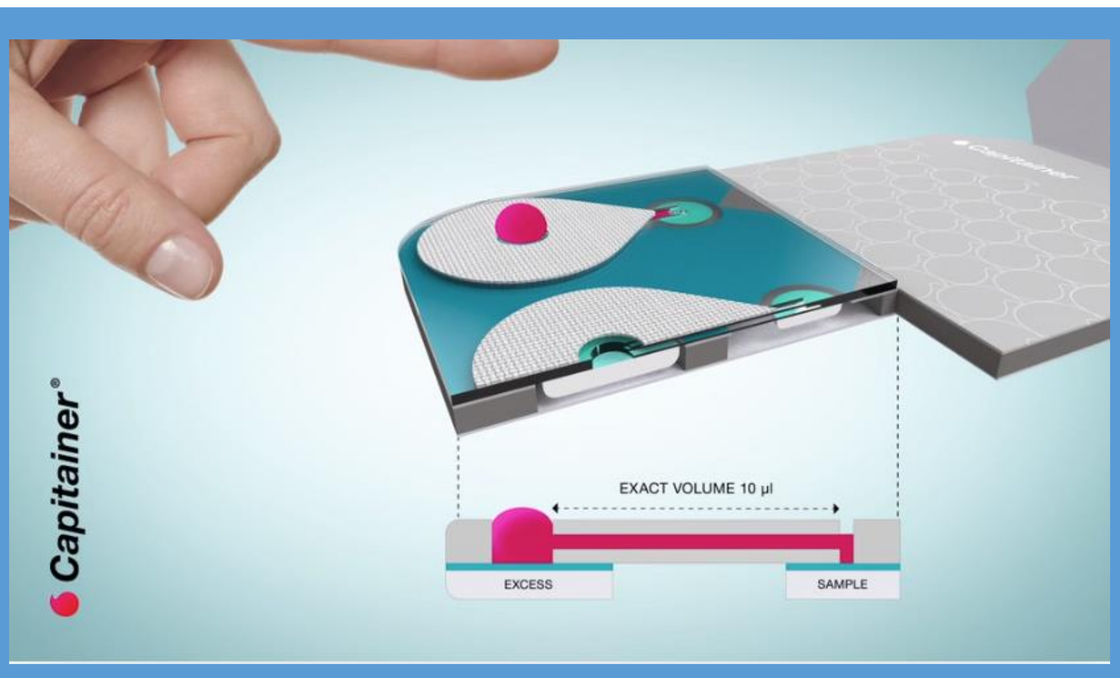
Improved 17-OHP testing by high precision sampling with qDBS technology

Capitainer®
SAMPLING YOU CAN TRUST



Introducing qDBS technology

Dried blood spots have been used in newborn screening since the 1960's. However, its wider use is limited because quantitative analysis cannot accurately be made. Capitainer qDBS improves DBS precision by:

- Exact quantitative volume of blood
- Haematocrit independent volumetric determination
- Resistance to over- or under-filling
- Sample containment & protection
- Visual confirmation of successful sampling

The metering mechanism employing thin dissolvable films was first demonstrated by Lenk et al 2015 [1]

About 17-OHP

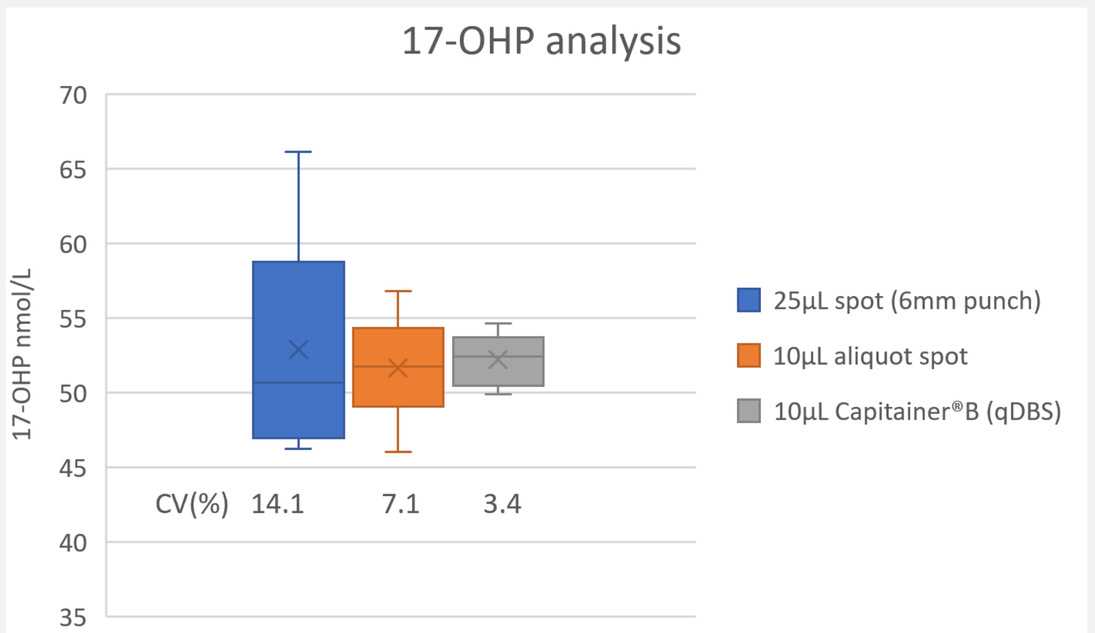
17-OHP is a hormone made by the adrenal glands. In the rare disorder congenital adrenal hyperplasia (CAH), the adrenal gland cannot make enough cortisol. As the adrenal glands work harder to make more cortisol, they produce extra 17-OHP. A test measuring the concentration of 17-OHP helps to diagnose the disorder.

Improved accuracy and precision

In a recent publication, improved precision and accuracy of phenylalanine measurement was shown, using *Capitainer®B* with qDBS technology, vs traditional dry blood spot, and alternative micro-sampling devices [2]

In this study, Capitainer®B has also been shown to improve the precision of 17-OHP measurement to monitor patients with Congenital Adrenal Hyperplasia.

There is a >4-fold improvement in the assay precision (%CV) when using the *Capitainer®B* qDBS device, vs conventional dried blood spot sampling, used routinely for CAH remote patient monitoring.



A whole blood sample was enriched with 17-OHP. A series of specimens were prepared:
(1) 25µl aliquots were applied to conventional 226 filter paper collection devices and a 6mm sub-punch taken for analysis,
(2) 10µl aliquots applied to conventional 226 filter paper collection devices and the whole 10µl spot punched out and analysed and
(3) a drop of blood was applied to the *Capitainer®B qDBS* devices.

Results shown are mean ±SD, n=6 per experiment.

References

1. https://doi.org/10.4155/bio.15.134
2. https://doi.org/10.1016/j.cca.2022.08.005

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