

***Helicobacter Pylori* detection with the ABCA2**



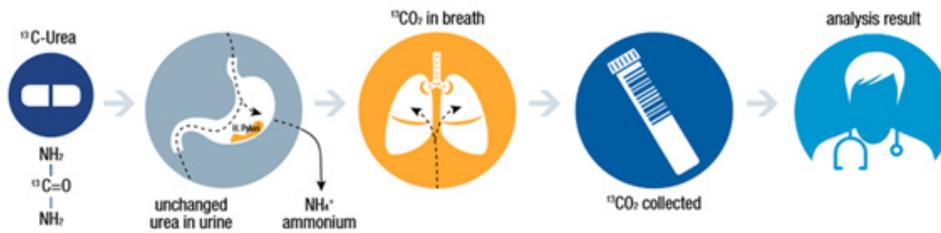
Introduction

The ABCA2 is the high performance, high sample throughput Isotope Ratio Mass Spectrometer for breath analysis. The ABCA2 was the first dedicated *Helicobacter Pylori* instrument to be FDA approved, and it is the only instrument of its kind with built in reference checks. It has outstanding precision of 0.05‰ and high sample throughput of 240 samples per batch, with the option to re-run a sample up to 5 times. The outstanding performance and versatility, combined with user friendly software, make the ABCA2 the only choice for ¹³C breath

tests, and the ultimate instrument for *H Pylori* detection. *H Pylori* is a bacteria which lives in the stomach. It is an extremely successful human pathogen, estimated to infect 50% of the global population; many people infected with *H Pylori* are unaware of its presence. However the presence of this common and curable bacteria is a cause of dyspepsia and peptic ulcer disease. The ABCA2 may be used to test for the presence of *H Pylori* via a simple non-invasive breath test, avoiding the cost, inconvenience and discomfort of endoscopy.



Method



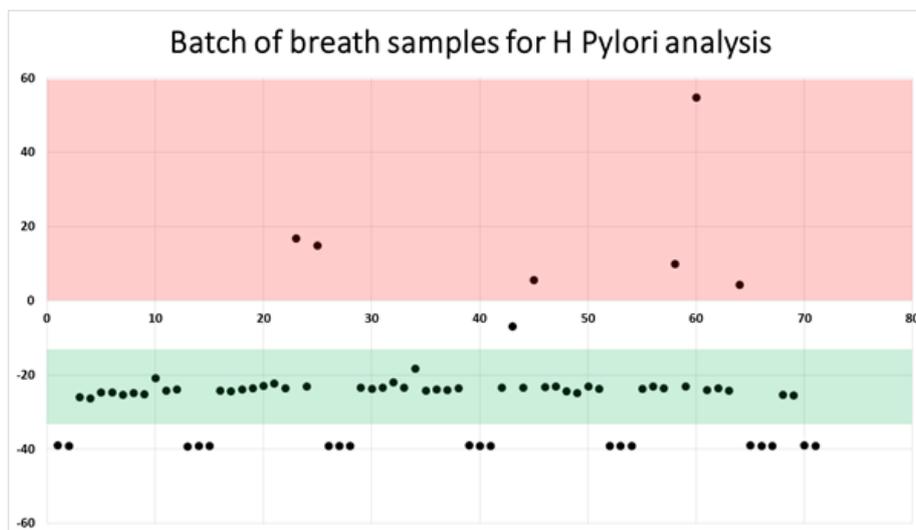
The patient blows into a tube, labelled pre-dose, the cap is screwed on quickly. The patient drinks a juice which is labelled with ¹³C enriched urea, waits 30 minutes, then blows in another tube, labelled post dose which is closed similarly quickly. The tubes are placed into the Sercon XYZ autosampler, if a barcode reader is used the barcodes on the tubes should face forward and the sample list is populated

Results

Results from a batch of breath samples which were being tested for the presence of *H Pylori* in the patient are shown below. It is up to the clinician to determine the threshold for the presence of *H Pylori*, in this instance the samples highlighted in red were deemed to be from patients who did have *H Pylori*.

automatically. Once “run samples” has been pressed in the Sercon Callisto software, the needle is inserted into the vial and the sample transferred to the IRMS via a GC column for purification and a nafion membrane for water removal. Calibrated data is shown after the run, which takes less than 3 mins per sample.

The samples highlighted in green were deemed to be negative results from patients who did not have *H Pylori* present in their stomachs. The sample which lies in between the red and green shaded areas was inconclusive and re-tested. The data points at ~-39‰ are from the reference gas.



Summary

The Sercon ABCA2 can be used in a simple, non-invasive breath test to detect the presence of *H Pylori* via expelled ¹³CO₂ following administration of a labelled substrate.



For more information on the Sercon ABCA2, the wide variety of applications it can be used for, or to find out what separates this instrument from other breath test instruments, please contact sales@sercongroup.com