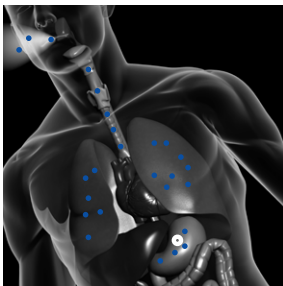


IRIS[®] – the reliable instrument for breath test analysis



- Non-invasive
- Non-radioactive
- Sensitive & specific
- With normal controls
- Quick and simple
- High patient acceptance



Applications

- ¹³C-Urea Breath Test for diagnosis of *Helicobacter pylori* infection
- Research: quantitative determination of metabolic functions in gastroenterology, oncology, hepatology and nutrition control

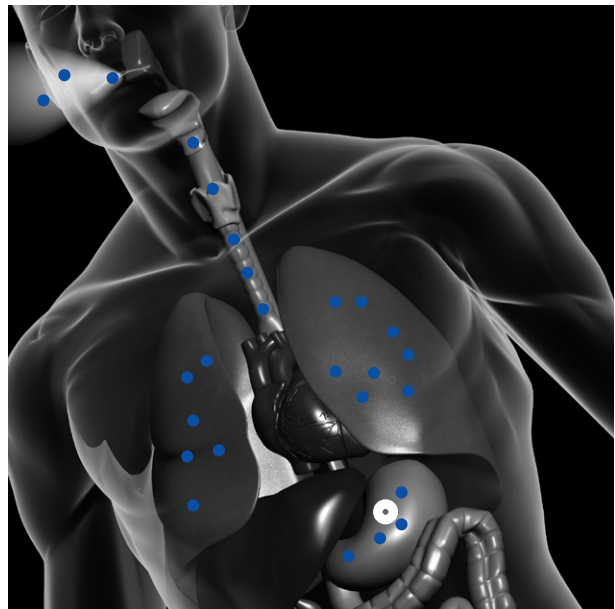
IRIS® – the reliable instrument for breath test analysis

The IRIS® Infra Red Isotope analyzer measures the $^{13}\text{CO}_2$ and $^{12}\text{CO}_2$ concentrations from sequences of breath samples, and relates their ratios to the PDB- ^{13}C stable isotope standard. The reproducibility will be better than 2 delta ppm over a wide range of $^{13}\text{C}/^{12}\text{C}$ stable isotope ratios, and over a wide range of CO_2 concentrations in breath.

Measurements are made on breath samples as they come from the breath sample bags. No separation of water or isolation of CO_2 is required prior to analysis. Standard breath bags have a volume of 120 ml breath gas, which allow for two measurements per sample.

The IRIS® Autosampler accepts sixteen sample bags to be run in automated sequence at a cycle of two minutes per sample. There is provision in hardware and software for frequent automated sampling from incubators, breathing machines or process lines.

IRIS® Software is based on WINDOWS™ operating systems (95, 98, 2000 & XP) and provides routines for calibrations, for sample definitions and measurement control. The database provides standardized breath test procedures and also records and stores patient data and test results. Standardized graphs allow comparison of patient's metabolic speed (^{13}C dose/hr) and metabolic capacity (cumulative dose) to the 95% confidence limits of Collective of Normal Controls over the time span of the breath test.



IRIS® Specifications

Quality of Isotope Ratio Determinations

Internal reproducibility ≤ 2 delta ppm for $^{13}\text{C}/^{12}\text{C}$ -Isotope ratio determination at breath samples.

Stability (external reproducibility) ≤ 2 delta ppm over eight breath samples for the same breath gas.

Time required to measure one sample: 2 minutes.

Range of CO_2 -concentrations: 0,5 to 5,0 Vol. %.

Minimum breath sample size: 40 ml STP (breath bags)

Minimum breath sample size: 10 ml STP (exetainer, vacutainer tubes)

IRIS® Technical Data

Dimensions: 510 mm wide, 500 mm deep, 280 mm high. Additionally, there is space required for the data system.

Weight: 22 kg plus data system and printer

Power requirements: 115 or 230V, 500 W

Data System Interface: RS 232

Sampling Interface: 1/8" Tubing for continuous sampling

Environment: Temperature at 15 to 35° C and humidity up to 70 % acceptable.

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