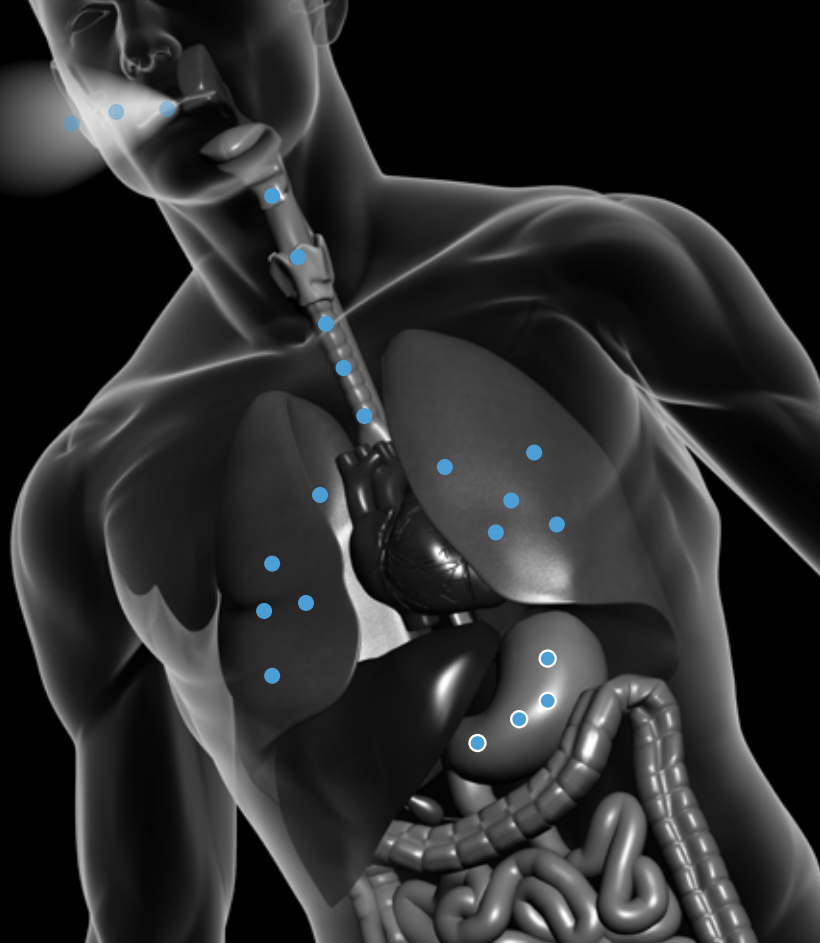


IRIS®

– the first choice for quantitative metabolic function tests



The end product of metabolism of ^{13}C -labeled xenobiotics is $^{13}\text{CO}_2$, which is quickly resorbed and exhaled. Measurement of the $^{13}\text{C}/^{12}\text{C}$ ratio in exhaled breath following the administration of such labeled substrates can therefore be used to determine the speed and efficiency of metabolic processes. This has wide applications in the fields of gastroenterology, oncology, hepatology and nutrition control.

$^{13}\text{C}/^{12}\text{C}$ ratio in exhaled breath can be determined by various methods including mass spectrometry (MS) and non-dispersive infra-red spectroscopy (NDIR). IRIS® is an NDIR instrument that can determine this ratio with a very high precision of 0,2 ‰.

IRIS® is available as IRIS®-3, IRIS®-Lab and IRIS®-Doc, and can be connected to the IRIS®-Multisampler for high throughput testing.

The IRIS® instrument offers the following advantages:

- Both the kinetics (dose/hr) and capacity (cumulative dose) can be followed
- The $^{13}\text{C}/^{12}\text{C}$ ratio in exhaled breath is determined without the need for separation of $^{13}\text{CO}_2$ from other gases
- Database of normal collective data that can be used to compare to investigators' own results
- Breath testing of children can be conveniently performed
- Continuous online breath sampling
- Animal models can also be used

Applications

BACTERIAL INFECTIONS

***Helicobacter pylori* infection**

¹³C-Urea, e.g. Diabact® UBT, registered pharmaceutical product

Bacterial overgrowth in small intestine

Lactose-¹³C-Ureide

GASTROINTESTINAL TRANSIT / MOTILITY

Gastric emptying of liquids or semi-liquids

¹³C-Sodium Acetate

Gastric emptying of solid test meals

¹³C-Octanoic Acid

Oro-caecal transit time of solid test meals

Lactose-¹³C-Ureide

CARBOHYDRATE METABOLISM

Lactose intolerance

¹³C-Lactose

Fructose malabsorption

¹³C-Fructose

LIVER FUNCTION

CYP-450-Demethylation and Decarboxylation

¹³C-Methacetin and ¹³C-Aminopyrine

Mitochondrial Function

¹³C-L-Methionine

¹³C-n-Octanoate

Cytosolic enzyme function

¹³C-Phenylalanine

¹³C-Galactose



PANCREAS FUNCTION

Total Amylase Activity

¹³C-Com Starch

Pancreas Lipase Insufficiency

¹³C-Mixed Triglycerides

OTHER METABOLIC FUNCTIONS

DPD deficiency

¹³C-Uracil

GASTRIC ACID SECRETION

Ca¹³CO₃

TOTAL ENERGY EXPENDITURE

¹³C-Bicarbonate

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