^{13}C Breath Test Substrates

for *IN VIVO* use

Helicobacter pylori

INC670P	**Urea ^{13}C**	*H.pylori* detection and eradication control

Liver Function

INC507P	**Aminopyrine** (N,N-dimethyl-$^{13}C_2$)	Liver function evaluation (Cyt. P-450 complex)
INC520P	**Caffeine** (3-methyl-^{13}C) **Citrate**	Drug elimination evaluation
INC590P	**Methacetin** (methoxy-^{13}C)	Liver function evaluation (Cyt. P-450)
INC620P	**L-Phenylalanine** (1-^{13}C)	Cytosolic enzyme activity
INC566P	**D-Galactose** (1-^{13}C)	Quantification of the functional mass liver

Gastric Emptying

INC610P	**Octanoic Acid** (1-^{13}C)	Gastric emptying (solid meal) Hepatic mitochondrial activity measurement
INC639P	**Sodium Acetate** (1-^{13}C)	Gastric emptying (liquid meal)

Fat malabsorption

INC654P	**Trioctanoin** (1,1,1-$^{13}C_3$)	Digestion and absorption of medium-chain fatty acids triglycerides
INC656P	**Triolein** (1,1,1-$^{13}C_3$)	Fat malabsorption (steatorrhea)
INC658P	**Tripalmitin** (1,1,1-$^{13}C_3$)	Fat malabsorption (steatorrhea)

Pancreatic Function

INC650P	**Mixed triglyceride** [2-octanoyl (1-^{13}C)-1,3 distearoylglycerol]	Pancreatic lipase activity evaluation

Oro-caecal transit time (OCTT)

INC582P	**Lactose (^{13}C) Ureide**	OCTT measurement
INK579P	**Lactose Ureide** (unlabelled)	

All our substrates are manufactured under GMP conditions and delivered with a complete certificate of analysis

euriso-top®

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Carbon-13 Breath Test Substrates

Carbon-13 Breath tests constitute a new class of non-invasive diagnostic tests used in clinical medicine. They have been developed with the intention of simplifying traditional tests of metabolic functions.

Principle

Carbon-13 Breath tests have the common characteristic that the labelled substrate is given orally, substrate that bears a functional group in which a normally present ^{12}C atom has been replaced by the stable isotope ^{13}C (non radioactive). This functional group is cleaved enzymatically under specific circumstances, either during the absorption, or the gastro-intestinal transit, or the metabolisation of the absorbed substrate. The key metabolic function is followed by measuring the increase of $^{13}CO_2$ in the subject's breath over a period of time.

Advantages

Carbon-13 Breath tests are a **non invasive** method. They enable us to measure gastro-intestinal, hepatological and metabolic functions directly in several physiological conditions.

- Taking breath samples is a **simple** procedure
- The use of ^{13}C permits :
  - **short term repeat of breath tests** on the same subject.
  - the study of metabolic function in **children** and during **pregnancy**.

Labelled Substrates

Several ^{13}C-labelled substrates are highlighted hereafter to illustrate the applicability and utility of the C-13 Breath test. (The $^{13}CO_2$ mixes with the body pool of CO_2-HCO_3 and is breathed out). The exhalation of $^{13}CO_2$ reflects the function we want to investigate.

^{13}C-substrate $\xrightarrow[\text{Function or enzyme to be examined}]{}$ $^{13}CO_2$-breath

EURISO-TOP®, the largest European producer of ^{13}C-labelled substrates, is pleased to offer a wide variety of enriched substrates which can be used in clinical studies of metabolic disorders, bacterial infection and organ function.We are pleased to assist you by providing technical information on applications and literature references. **DMF** could be delivered under special conditions. All our ^{13}C-Substrates are controlled with modern analytical methods and delivered with a complete **Certificate of Analysis :**

- **Chemical purity** (≥99%)
  HPLC, ^{13}C-NMR, ^{1}H-NMR, Infra-red spectrum, ...
- **Isotopic enrichment** (≥99 atom %)
  Mass spectrometry
- **Pyrogenicity**
  L.A.L Test
- **European Pharmacopoeia** (^{13}C-urea)
- **Residual Solvents**