

**General requirements in competition for best offer to select supplier of:**

**01. Dynamic, gastrointestinal model consisting of stomach and small intestine.**

**02. Dynamic, gastrointestinal model consisting large intestine.**

**03. Reagents for Dynamic, gastrointestinal model consisting of stomach and small intestine**

- 1.1. The model is supposed to enable the research of digestion and fermentation process of different dietary supplements and the estimation of bioavailability of active compounds resulting from digestion.
- 1.2. Dynamic, computer-controlled gastrointestinal model consisting of stomach and small intestine as a part of the complete set, should enable the most accurate simulation of the dynamically changing conditions in the stomach and in the lumen of duodenum, jejunum and ileum during simulation of ingestion of water, test products or the combination of food and test products. The conditions are meant to be adequate to the type of food, age and health.
- 1.3. Dynamic, computer-controlled gastrointestinal model consisting of large intestine as a part of the complete set, should enable the most accurate simulation of the dynamically changing conditions in the lumen of large intestine (among others: pH change, peristaltic movements, water absorption and microbiota metabolites) after application of efflux from small intestine or products without initial digestion. The system should mimic with the highest accuracy microbiota and microbiota response in anaerobic environment for different substances with or without initial digestion in long- and short-term study.
- 1.4. Reagents for Dynamic, gastrointestinal model consisting of stomach and small intestine:
  - alpha-amylase, typ II-A, Synonym: 1,4- $\alpha$ -D-Glucan-glucanohydrolase, CAS number: 9000-90-2, lyophilized powder,  $\geq 1,500$  U/mg, sample size: 1 g
  - Bile (Bile porcine extract), CAS number: 8008-63-7; water (by Karl Fischer)  $\leq 10\%$ , sample size: 100 g
  - Lipase from Rhizopus, CAS number: 9001-62-1, proszek  $>30$  U/mg, sample size: 25 g
  - Pancreatin from porcine pancreas, CAS number: 8049-47-6, powder, suitable for cell culture; sample size: 100 g
  - Pepsin from porcine gastric mucosa; Synonym: Pepsin A; CAS number: 9001-75-6 lyophilized powder, 3,200-4,500 units/mg protein, sample size: 5g
  - Trypsin from bovine pancreas, CAS number: 9002-07-7; Type I,  $\sim 10,000$  BAEE U/mg protein, sample size: 1g
- 1.5. It is required that every part of the model is placed inside the wheeled cabinet  $80(\pm 10) \times 60(\pm 10) \times 200(\pm 25)$  cm additionally equipped with computer, monitor and charger.
- 1.6. The citation list of scientific application for the aforementioned model must be provided.

**Intrested suppliers are requested to read all “Warunki Postepowania – Terms and conditions” and all attached documents. All offers must be made as required in these document.**