

# In vitro simulations of the gastrointestinal digestion

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## Contact person

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## Organisation

**Name of the organisation** Ghent University (UGent)

**Department** Faculty of Veterinary Medicine, Department of Veterinary Public Health and Food Safety

**Country** Belgium

**Geographical Area** Flemish Region

## SCOPE OF THE METHOD

<b>The Method relates to</b>	Animal health, Human health
<b>The Method is situated in</b>	Basic Research, Translational - Applied Research
<b>Type of method</b>	In vitro - Ex vivo
<b>Specify the type of cells/tissues/organs</b>	Fecal inocula

## DESCRIPTION

### Method keywords

in vitro digestion

colonic digestion

fecal inocula

### **Scientific area keywords**

in vitro

digestion

chemistry

food safety

### **Method description**

The aim of these *in vitro* digestions is to simulate the gastrointestinal digestion of specific food sources and to identify metabolites that might be formed out of this food source by the residing microbiome. For this purpose, fecal samples will be collected from volunteers and will be prepared as fecal inoculum. The *in vitro* simulation of the gastrointestinal digestion consists of an enzymatic digestion (mouth, stomach and duodenum), followed by a colonic fermentation, for which the fecal inoculum will be used.

### **Method status**

Published in peer reviewed journal

## **PROS, CONS & FUTURE POTENTIAL**

### **Advantages**

Excellent way of evaluating the impact of the microbiome on digestion, without any confounding of the host digestion.

### **Challenges**

No interaction with the host.

## **REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION**

### **References**

Van Hecke et al (2014) Journal of Agricultural and Food Chemistry, 62, 1980-1988  
Rombouts et al (2017) Scientific Repors, 7, 42514 L.Y.

Hemeryck et al (2018) Food and Chemical Toxicology, 115, 73-87

### Associated documents

[Rombouts et al, 2017.pdf](#)

[Van Hecke et al, 2014.pdf](#)

[Hemeryck et al, 2018.pdf](#)

### Links

[Van Hecke et al, 2014](#)

[Rombouts et al, 2017](#)

[L.Y. Hemeryck et al, 2018](#)

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