

In vitro simulations of the gastrointestinal digestion

Created on: 24-10-2019 - Last modified on: 12-11-2019

Contact person

Lynn Vanhaecke

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

The Method relates to	Animal health, Human health
The Method is situated in	Basic Research, Translational - Applied Research
Type of method	In vitro - Ex vivo
Specify the type of cells/tissues/organs	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](#)

Coordinated by



Financed by



Vlaanderen
verbeelding werkt

