

In vitro simulations of the gastrointestinal digestion

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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
This method makes use of	Other (e.g. bacteria)
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.

Lab equipment

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](#)

PARTNERS AND COLLABORATIONS

Organisation

Name of the organisation Ghent University (UGent)

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Country Belgium

Geographical Area Flemish Region

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