In vitro gastrointestinal Dialysis model (with colon phase)

Commonly used acronym: *GIDM & GIDM-colon*

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Organisation

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NatuRA (Natural Products and Food - Research and Analysis)
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SCOPE OF THE METHOD

The Method relates to	Animal health, Human health
The Method is situated in	Basic Research
Type of method	In vitro - Ex vivo

DESCRIPTION

Method keywords

passive diffusion
availability
validated in vitro model
colonic metabolism

Scientific area keywords

effect of food matrix on availability of compounds
metabolisation pattern of bio-active compounds
availability and release of compounds in pharmaceutical formula

Method description

The GIDM-colon is a validated *in vitro* model that allows the study of the availability of compounds and the metabolisation at the level of the colon. The human physiological conditions of the gastrointestinal tract (stomach, small intestine and colon) are mimicked. The continiuous flow eliminates the compounds diffusing through a semi-permeable membrane, simulating absorption by passive diffusion. The impact of the digestive conditions of various age groups or diseases states (e.g. metabolic syndrome) on

availability and metabolite formation can be investigated.

Lab equipment

Anaerobic glove box ;
Sample analysis:
- HPLC,
- AAS,
- LC/QTOF.

Method status

History of use
Internally validated
Published in peer reviewed journal

PROS, CONS & FUTURE POTENTIAL

Advantages

Reproducability ;
Circumstances can be well controlled and standardized ;
Representative of colon microbiome ;
Sampling at any time.

Challenges

Absence of an active transport of digestion products.

Future & Other applications

An adaptation can be made to the gastrointestinal tract of animals investigating the availability and the release of compounds in certain drugs or healthy food.

REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

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