In vitro gastrointestinal Dialysis model (with colon phase)

Commonly used acronym: GIDM & GIDM-colon
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SCOPE OF THE METHOD

<table>
<thead>
<tr>
<th>The Method relates to</th>
<th>Animal health, Human health</th>
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<tbody>
<tr>
<td>The Method is situated in</td>
<td>Basic Research</td>
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<tr>
<td>Type of method</td>
<td>In vitro - Ex vivo</td>
</tr>
<tr>
<td>This method makes use of</td>
<td>Other (e.g. bacteria): Faecal samples will be implemented to create a microbial flora</td>
</tr>
</tbody>
</table>

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 continuous 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

References


**Associated documents**

**PARTNERS AND COLLABORATIONS**

**Organisation**
Name of the organisation University of Antwerp
Department Pharmaceutical Sciences
Specific Research Group or Service NatuRA (Natural Products and Food - Research and Analysis)
Country Belgium
Geographical Area Flemish Region