

## In vitro gastrointestinal Dialysis model (with colon phase)

**Commonly used acronym:** GIDM & GIDM-colon

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### Organisation

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**Department** Pharmaceutical Sciences

**Specific Research Group or Service**

NatuRA (Natural Products and Food - Research and Analysis)

**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
<b>Type of method</b>	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 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**

Reproducibility ;

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**

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