ICFD 2022
CORK 3-5 MAY 2022

Virtual International Conference on Food Digestion
6th and 7th May, 2021
#VICFD2021

teagasc
Agriculture and Food Development Authority

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INFOGEST

Dear Colleagues & Friends,

On behalf of the organising and scientific committees, I am delighted to invite you to join us at the **Virtual International Conference on Food Digestion (#VICFD2021)** on 6-7th May 2021.
Due to the worldwide SARS-CoV-2 crisis, the International Conference on Food Digestion was postponed to 2022 (https://www.icfd2022.com/). We hope to see you in Cork next year.
In the interim, our **Virtual International Conference on Food Digestion (#VICFD2021)** gives researchers, especially PhD students, an opportunity to present their results on an international stage.

It is organised as part of the INFOGEST research network (www.cost-infogest.eu), the objective of which is to "improve the health properties of food by sharing our knowledge on the digestive process". INFOGEST is an open global network of more than 400 research scientists (academic and food companies) from over 40 countries.

This book of abstracts details the exciting schedule that awaits us. The conference runs over 2 days and is divided into 7 sessions with 28 oral presentations (O1-28) covering themes broadly corresponding the 6 INFOGEST working groups.

Session 1: Food Digestion and Digestion Models
Session 2: Food interaction and meal digestion
Session 3: Digestive Lipases and Lipid Digestion Absorption models
Session 4: A live session from Australia and New Zealand (all topics)
Session 5: Absorption models
Session 6: Digestive Amylases and Starch Digestion
Session 7: In silico Food Digestion Models & Gut Microbiome

In addition we have a poster session where researchers will present their work as 24 flash presentations of 3 mins in duration (F1-F25).

Looking forward to a stimulating and lively conference

Linda Giblin and André Brodkorb, TEAGASC

Oral 9

Trypsin as a proteomic probe to assess food protein digestibility in relation to post- translational modifications

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Background: We have undertaken study on our porcine-derived trypsin generated proteomic data of the major peanut allergen Ara h 1 from the raw and roasted peanut, to assess possible facilitating/hindrance effects on trypsin digestion efficacy caused by post-translational and chemical modifications (PTMs) positioned on K/R residues. If potential hindrance effects caused by PTMs are observed with porcine trypsin, then they can be just augmented and more pronounced within human intestinal digestion. The logic for such reasoning is in inferior performance of human trypsin compared to porcine-derived used in proteomic digestion protocols, also the lower trypsin-to-sample ratio and much shorter digestion times, even though gastric digestion precedes and trypsin is not the sole digestive enzyme.

Methods: Novel method was developed to decipher outcomes at scissile bonds using PEAKS Studio-X+ in reassessment of high-resolution tandem mass spectrometry data on 18h-long trypsin digestion protocol.

Results: In eight modified K/R residues involving methylation, dihydroxy and formylation, differences in extent of miscleavage between modified and unmodified peptides, were significantly higher (>10%) in modified peptides.

Conclusion: It is important to elucidate impact of modifications on trypsin digestion performance, but also on other proteases involved in digestion process due to possible effects on allergenicity of food proteins/peptides.