

**Joint education course of MITOFOOD and LYCOCARD
“PUFAs and Carotenoids: Food and Bioactivation”**

1. June 2009

9.00 – 13.00 h

THEORETICAL SESSION

Plenary lectures: PPARs and PUFAs

9.00-9.30h

Dr. Laszlo Nagy, University of Debrecen, H
“Activation of PPARs by PUFAs: Influence on the Immune system”

9.30-10.00 h

Dr. Karsten Kristiansen, Department of Biology, University of Copenhagen, DK
“PUFAs and Bioactivation: The 12-LOX pathway”

10.00-10.30 h

Dr. Jan Kopecky, Prag, CZ
“PUFAs : Food sources and mechanism of action“

10.30-11.00 h

Dr. A. Jacobsson, Stockholm, S
”Elongases and fatty acid metabolism”

11.00-11.30 h

Coffee break

11.30-12.00 h

Thierry Arnould, Namur, B
“Mitochondria and fatty acids ”

12.00-12.30 h

Patrick Schrauwen, Maastrich, NL
“Diet, insulin resistance and mitochondrial function”

12.30-13.00 h

Lajos Szeles, Debrecen, H
“Vitamin D and Bioactivation”

13.00 – 15.00 h

Lunch break

15.00 – 19.00 h

PRACTICAL SESSION

Carotenoids and PUFAs: Lab training including:

- reporter cell lines (Gamze Aydin)
- reporter animal studies (Gamze Aydin)
- reporter gene analysis in cell culture and laboratory animals (Janine Gericke / Johanna Mihaly)

15.00-19.00 h Reporter animal studies by bioluminescence imaging (by Gamze Aydin)

Introduction to bioluminescence imaging, treatment of animal design of bioluminescence imaging experiment, animal handling and laboratory practice with CCD camera

15.00-19.00 h qRT-PCR assay (by Janine Gericke and Johanna Mihaly)

Introduction of qRT-PCR, design of assay, methods to improve qRT-PCR and laboratory practice

20.00 h Dinner at Vapiano Restaurant, Debrecen downtown

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2. June 2009

- 9.00 – 12.30 h** Plenary lectures: CAROTENOIDS and nuclear receptors
- 9.00-9.30 h** Dr. Johannes von Lintig, Cleveland, USA
“BCOs and gene expression”
- 9.30-10.00 h** Dr. Yvonne van Helden, Wageningen, NL
“Carotene metabolites and oxidative damage”
- 10.00-10.30 h** Dr. Ralph Rühl, Debrecen, H
“Novel bioactive metabolites from Carotenoids and PUFAs”
- 10.30-11.00 h** Coffee Break
- 11.00-11.30 h** Dr. Zsuzsa Szondy, University of Debrecen, H
“PUFAs and Retinoids on Apoptosis”
- 11.30-12.00 h** NN1 and NN2
„Dietary recommendations: What makes a sense?”
“Antioxidants”
- 12.30– 13.30 h** Lunch break

13.30– 16.30 h PRACTICAL SESSION

Carotenoids and PUFAs: Lab training including:

- reporter animal studies (Gamze Aydin)
- reporter gene analysis in cell culture and laboratory animals (Janine Gericke / Johanna Mihaly)
- HPLC-MS-MS detection of nutrient metabolites (Ralph Rühl)

13.30-14.30 h Reporter animal studies by bioluminescence imaging (by Gamze Aydin)
Quantification of bioluminescence imaging results, data analysis, troubleshooting

13.30-14.30 h Reporter gene analysis in cell culture and laboratory animals (by Janine Gericke / J. Mihaly)
Quantification of qRT-PCR results, data analysis, troubleshooting

14.30-16.30 h HPLC-MS-MS detection of nutrient metabolites (by Ralph Rühl)

17.00 h Starting to trip to Tokaj by bus

18.30 h Dinner and wine tasting

The course (lectures and practical session) will be open for 10 Mitofood participants, 6 Lycocard participants and the lectures will be open for local PhD students and scientists.

Lectures will be open for further Mitofood and Lycocard participants as well as local PhD students.