



# EuroFoodChem XV

## **FOOD FOR THE FUTURE**

- the contribution of chemistry  
to improvement of food quality

## Proceeding 2

Copenhagen, Denmark  
5-8 July 2009

Book II of Proceedings of the EURO FOOD CHEM XV:

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## Ab120:

How do we quickly and simply test in vitro candidates for new prebiotics?

**Vrvic, Miroslav; O. Martinov; N. Lugonja; V. Matic; D. Jakovljevic; G. Gojgic-Cvijovic**  
*Faculty of Chemistry, University of Belgrade, Belgrade, Serbia*

Keywords: in vitro test, new prebiotics, yeast's cell wall

Substances and microorganisms that stimulate the development of "good" microbes or such microorganisms that in the gut are prebiotics and probiotics, i.e. symbiotics. By birth and by breast-feeding ("prebiotic"), the new born establishes an ideal microflora of the digestive system ("probiotics"), which is a precondition for a successful and healthy beginning of the child's life. Changing the type of food we eat and due to all other influences during one's growth, development, becoming of age and aging, the composition of the micro flora in the gastrointestinal tract is also changed and its predominantly mild and medicinal effects become the very opposite! These are the reasons of the real "hunting" of new prebiotics and probiotics which complex of scientific confirmed favourable effects on the health.

As one of results of our multi-year (since the beginning of 1980s) experience in applying the knowledge in this field to the testing, development and production of the infant formulae and the follow-on-formulae, which arises from this need, is the in vitro method of a quick and simple assessment of bifidogenous effects and prebiotic features of a substrate and its components.

The in vitro test, which lasts 48 h, is based on monitoring the effects of the substrate and potentially prebiotic substances that have been previously treated with pancreatine, to the development of the mixed culture of bifidobacteria separated from the faeces of the just-born baby that is only breast-fed. The indicators of the effects that we follow up are microbiological indicators (microscopy, the number of bifidobacteria and the dry biomass), and biochemical (pH, the total organic acids and the mole ration of acetic and lactic acid). The reference substrate is the mature breast milk in the simultaneously performed tests. The previous step in the research of the new chemically defined prebiotics that we apply is the physiological and biochemical characterization against in vitro digestion by artificial saliva, gastric juice and pancreatine.

In this presentation, our methodology of testing new prebiotics is illustrated by, i.e. presented in an example of cell wall of baker's yeast with various content of 1,3- $\beta$ -D-glucane.

Original Message -----

**From:** Dra. Vidal

**To:** [mmvchem@sezampro.rs](mailto:mmvchem@sezampro.rs)

**Sent:** Thursday, June 04, 2009 4:43 PM

**Subject:** Euro Food Chem XV

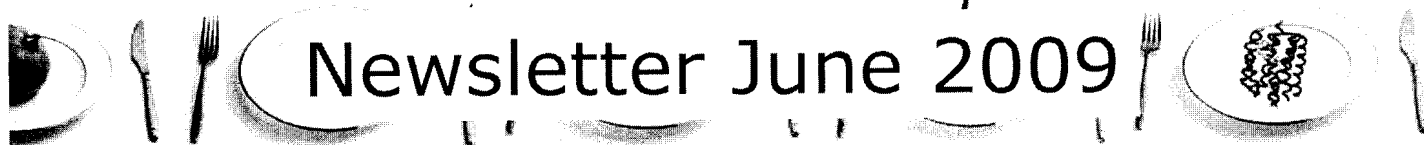
Dear Dr. M.M. Vrvic

As moderator of workshop W 2 "Prebiotics as food ingredients and additives" of Euro Food Chem XV, I will be very pleased if you can contribute to the workshop with oral presentation of your work entitled "How do we quickly and simply test in vitro candidates for new prebiotics?"

I hope that you accept and please let me know your opinion as soon as possible.

My best wishes

C. Vidal



# Newsletter June 2009

## EuroFoodChem XV - Copenhagen 5-8 July 2009 FOOD FOR THE FUTURE

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TIME	SUNDAY 5 JULY	TIME	MONDAY 6 JULY	TIME	TUESDAY 7 JULY	TIME	WEDNESDAY 8 JULY	
		8.00	Registration					
		8.30	Opening Ceremony	8.30	Session 3: Micro- and macronutrients	8.30	Session 5: Food for health	
		9.10	Czedik-Eysenberg lecture					
		9.40	Coffee/tea					
		10.05	Session 1: Food processing	10.05	Coffee/tea	10.05	Coffee/tea	
		11.10	Session 2: Sensory active components	10.30	Session 4: Bioactive food components	10.30	Session 6: Functional foods	
		12.15	Lunch Poster session Exhibition	12.05	Lunch Poster session Exhibition	12.25		Conference summary Poster awards Closing ceremony
13:00 - 18:00	Registration at LIFE-UC, Thorvaldsensvej 40, Frederiksberg	14.00	Session 2: Sensory active components	14.00	Session 4: Bioactive food components	13.00	Lunch	
		15.05	Coffee/tea	15.05	Coffee/tea			
	Welcome reception at LIFE-UC (next to Registration desk)	15.30	EU Session	15.30	Workshop W6		Workshop W8	
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		17.00	Workshop W2		Workshop W4	16.30	Young scientist session 1	Workshop W7
						17.15	Young scientist session 2	Workshop W5
		18.00	Exhibition	18.00	Exhibition			
		19.00	Copenhagen City Hall Reception	19:00-23:00	Conference dinner			

## **Workshop 2 - Prebiotics as food ingredients and additives**

### **Monday 5 July 17:00-18:00**

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**Moderator: Professor Concepcion Vidal, Madrid, Spain**

#### **Workshop introductory presentations:**

**Dr. Daniele Barile:** "Characterization of bio-active oligosaccharides from dairy products: a new source of functional ingredients?"

Abstract n° 30.

**Dr. Chiara Borronei:** "Determination of fructooligosaccharides of prebiotic interest in onions (*Allium cepa*) from different cultivars"

Abstract n° 149

**Dr. Attila Kiss:** " Role of inulin and its degradates in prebiotic effect of newly developed functional foodstuff"

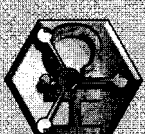
Abstract n° 169

**Dr. MM Vrvic:** "How do we quickly and simply test in vitro candidates for new prebiotics?"

Abstract n° 120



## EURO FOOD CHEMISTRY XV



*W 2: "Prebiotics as food ingredients and additives"*

# HOW DO WE QUICKLY AND SIMPLY TEST IN VITRO CANDIDATES FOR NEW PREBIOTICS ?

**Prof. Miroslav M. VRVIĆ, D.Sc.Chem.**

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Copenhagen

July 5<sup>th</sup>(6<sup>th</sup>)-8<sup>th</sup>, 2009

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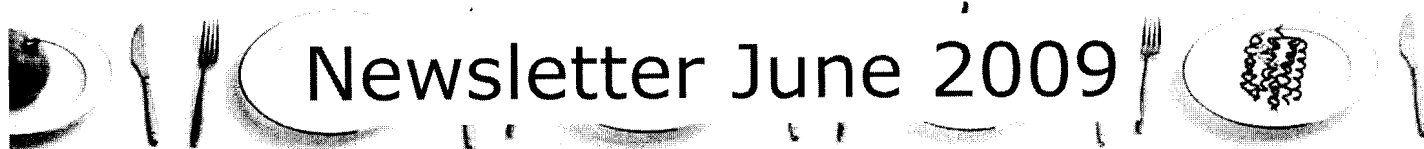
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