

Gliwice, May 15, 2013

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Conference Report

From 21th to 24th May 2013 10th Carbohydrate Bioengineering Meeting held in Orea Hotel Pyramida in Prague, Czech Republic. The researchers from all around the world took a part in this conference. I could participate in this meeting thanks to the Travel Grant.



Hotel Pyramida in Prague

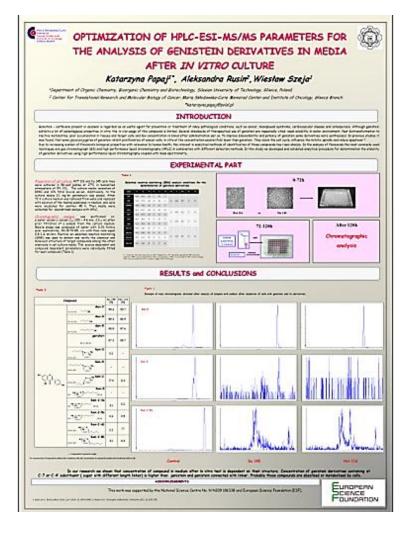
On the first day of the conference during the Opening Ceremony Mr *Vladimír Křen*, Co-Chair of the Organizing Committee, welcome participants to the beautiful city of Prague.



Opening Ceremony

After that Birte Svensson delivered opening lecture which was a nice introduction to the general topic of conference. Next, in the second lecture Steve Withers presented a very interesting lecture about the use of glycoconjugates for biofunctionalization of biomaterial surfaces. In the evening, after lectures participants took a part in welcome party in Břevnov Benedictine Monastery in Prague. After organ concert, during a dinner researchers discussed and shared their knowledge of synthesis and application of carbohydrates and glycoconjugates.

The next day participants listened to very instructive presentations about glycobiology, bioinformatics and glycomis – production of new drugs which is based on different sugars. After that a few of researchers presented flash presentation, during that in short way they submitted results of their study. Then all the participants went to Congress Hall II where poster session was held. During this session I have presented my poster about "Optimization of HPLC-ESI-MS/MS parameters for the analysis of genistein derivatives in media after in vitro test".



In this poster I presented the result of my studies on optimization of HPLC-ESI-MS/MS method for determination of genistein derivatives in medium collected after *in vitro* culture of cell lines.

New genistein derivatives containing 2,3 unsaturated mono- or disaccharides were designed and synthesized in our laboratory. These compounds contain a substituent (sugar with different length linker) at C-7 or C-4' position, connected with a molecule of genistein by *O*-glycosidic or C- glycisidic bond. Our *in vitro* screening studies in cell lines showed that those glycoconjugates inhibited proliferation of cancer cells *in vitro* at the concentration several-fold lower than genistein.

In the next stage of this study, which is main goal of my personal interest, I put efforts to determine their concentration in medium collected after *in vitro* culture of the cell lines. Before final analysis, for each compound the HPLC conditions and MS/MS parameters were optimized. The best results were obtained with use of a water L-column C_{18} (150 ×4.6 mm, 3.0 μ m), using the mobile phase composed of water with 0.1% formic acid: acetonitrile, 40-15:60-85, v/v with a flow rate equal 0.6-1.1 ml/min. Selected reaction monitoring mode, using the precursor ions and the corresponding product ions were used to detect and verify the chemical and molecular structure of target compounds among the other chemicals in cell culture media. The MS conditions: the parameters dependent on the source, such as: nebulizer gas, curtain gas, collision gas, ionspray voltage, temperature of the heater gas and the compound dependent parameters, such as: declustering potential, entrance potential, collision energy and collision cell exit potential were tuned up for individual compounds.

My result indicate that concentration of compound in medium after in vitro test is dependent on their structure. Concentration of genistein derivatives containing at C-7 or C-4' substituent (sugar with different length linker) is higher than genistein and genistein connected with linker. Probably those compounds are absorbed or metabolised by cells.

During poster presentation I met interesting people whose studies are associated with my interest. We discused and exange the contact and experience.

After poster presentation during two sessions researchers could parcipitate in lectures about using of enzymes to modification of carbohydrates.

During the third day of conference a lot of interesting lecture were presented. Listeners were especially intrested in using of carbohydrates in medicine. After each occurence, instructive disscusion took a place. This day participants also took part in second poster presentation and evening everyone went to Villa Richter,St. Wenceslaus' Vineyard where was a social evening. During this evening participants tested local wine and discussed to midnight.



Poster presentation

The last day of conference after lectures awards for posters were given and organizers invited everyone to CBM11.

Summarizing the conference was structured around interesting oral presentations which allow all participants to find something interesting for themselves. Conference program also allowed to find time to visit Prague.



Polish group



New Royal Palace



Charles IV Monument

During a conference many topics such as: synthesis, structure and function of carbohydrates and glycoconjugated, their usage in medicine were showed. For me very important was session 8 "Carbohydrates in health and medicine". All the presentations were well prepared and many interesting aspects were discussed. This area is very interesting for me, because in our laboratory, we are working on using carbohydrates derivatives to prevent cancer. This session motivated me and gave me many interesting ideas for further research.

In my opinion the main goal of the conference: exchange of scientific experience and ideas by researchers was achieved. I think it was also an invaluable support for young scientists to make their first steps towards future careers under the appreciable patronage of invited guests and great scientists.

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1 Oth Carbohydrate Bioengineering Meeting 21st - 24th April 2013, Prague, Czech Republic

www.cbm10.org

Prague, 24th April 2013

CONFIRMATION OF ACTIVE PARTICIPATION

This is to confirm that

Katarzyna Papaj

participated actively

in the 10th Carbohydrate Bioengineering Meeting in Prague, 21st - 24th April 2013.

> Prof. Vladimír Křen, Chairman **CBM10 Organizing Committee**