



Program

15th Symposium on Glycosaminoglycans

New developments of anticoagulant and non-anticoagulant glycosaminoglycans and of other coagulation inhibitors

October 11th – 13th, 2007

Organizers:

Job Harenberg

4th Department of Medicine Faculty of Clinical Medicine
Mannheim

Benito Casu

„G. Ronzoni“ Institute for Chemical and Biochemical Research,
Milan

Welcome to Villa Vigoni 2007

As for the past fourteen editions, the 15th Glycosaminoglycan Symposium will take place in Villa Vigoni (Lovenno, Lake Como). Started as Italian-German meetings (the villa is owned by the German Government), the symposia have become more and more international, with eminent specialists from all over the world invited to contribute to discussion of topics of actual or emerging interest in the field of chemistry, biochemistry, biology, pharmacology, and clinical applications of heparin and other glycosaminoglycans. Both basic and applied aspects will be covered and discussed, with about twenty percent of participants being associated with industrial companies. Participation in the symposium (only by invitation) is limited to a maximum of 60 participants.

This year the topics selected for discussions include: approaches to establish structure-activity relationships with special emphasis on inflammation and cancer, low- and ultra-low-molecular weight heparins, enzymatic cleavage of glycosaminoglycans, and clinical pharmacology assessment of heparins and non-GAG antithrombotic agents. The problem of the development of generic LMW-Heparins will be focused in a workshop session. Keynote speakers will outline the state-of-the art in each field and present novel results. A sufficient time will be allotted to in-depth discussion. The informal, workshop-like character of the symposia and the pleasant surroundings of the villa traditionally stimulate also after-session interactions among participants.

The volume of Seminars in Thrombosis and Hemostasis containing a number of manuscripts from the 14th Glycosaminoglycan symposium will be available at the meeting.

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Main topics

Anticoagulants

glycosaminoglycans, heparins, hirudins, low-molecular-weight heparins, pentasaccharide, new antithrombotic drugs, thrombin inhibitors

Characterization of glycosaminoglycans

Anticoagulant assays, nuclear magnetic resonance, mass spectrometry, new biological assays, standardization and harmonization of methods

Structure-function relationships

Drug interactions of anticoagulants, glycosaminoglycans and platelet factor 4, glycosaminoglycans, growth factors and heparanase, glycosaminoglycans and inflammation, heparin-induced thrombocytopenia, protein-glycosaminoglycan interactions, glycosaminoglycans and malignancy, glycosaminoglycans and amyloidosis

Clinical studies

Deep venous thrombosis and pulmonary embolism, glycosaminoglycans, ischemic stroke, myocardial infarction, new indications, prolonged prophylaxis of venous thromboembolism, pentasaccharides, thrombin inhibitors, low-molecular weight heparins and cancer

Scientific board

B. Casu, J. Harenberg, G. Torri, R. Sasisekharan

Thursday, October 11th, 2007

14.30-14.40	J. Harenberg , Mannheim and B. Casu , Milan: Welcome address
Session I	WHAT IS NEW IN GLYCOSAMINOGLYCAN SCIENCES Discussion leader: U. Lindahl , Uppsala
14.40-14.50	U. Lindahl , Uppsala – Introduction
14.50-15.10	U. Lindahl , Uppsala Heparan sulfate-protein interactions: aspects of specificity
15.10-15.30	R. Sanderson , Birmingham, Alabama Anti-tumor activities of modified heparins
15.30-15.50	R. Sasisekharan , Cambridge USA A perspective in glycan biology: lessons from glycosaminoglycans
15.50-16.10	Discussion
16.10-16.20	U. Lindahl , Uppsala – Concluding remarks
16.20-16.40	Coffee and tea
Session II	SHAPES AND FUNCTIONS OF GLYCOSAMINOGLYCAN SEQUENCES Discussion leader: B. Casu , Milan
16.40-16.50	B. Casu , Milan – Introduction
16.50-17.10	P. L. Dubin , Amhest, USA Glycosaminoglycans as polyelectrolytes. Nonspecific and specific interactions with proteins
17.10-17.30	C. Viscov , Paris / M. Guerrini , Milan Identification of heparin segments interacting with antithrombin outside the pentasaccharidic sequence
17.30-17.50	Discussion
17.50-18.00	B. Casu , Milan – Concluding remarks

Friday, October 12th, 2007

Session III	NONANTICOAGULANT ACTIVITIES OF GLYCOSAMINOGLYCANS Moderators: J. Gallagher , Manchester, J. Lee , Maywood
8.30-8.50	L. Borsig , Zürich: Inflammation microenvironment facilitates metastasis
8.50-9.10	G. Bendas , Bonn: In vitro simulation of adhesion receptor involvement in tumour cell metastasis and the intervention of heparin
9.30-9.50	A. Naggi , Milano/ V. Evangelista , S. Maria Imbaro: Structure-activity relationships in glycosaminoglycan-selectin interactions
9.50-10.10	D. Heymann , Nantes: Interactions between glycosaminoglycans and OPG/RANK/RANKL in bone tissue: functional and therapeutic interest.
10.10-10.30	Discussion
10.30-10.50	Coffee, tea
	Moderators: R. Sasisekharan , Cambridge, G. Torri , Milan
10.50-11.10	J. Gallagher , Manchester: Multimers of the growth factors-receptor complexes formed on long oligomers of heparin
11.10-11.30	M. B. Donati , Campobasso: Glycosaminoglycans and inflammation
11.30-11.50	J.-p. Li , Uppsala: Heparan sulfate and heparanase: roles in amyloidosis
11.50-12.10	J. Lee / U. Cornelli , Maywood: Neuroheparin in the prevention of amyloidosis in mice
12.10-12.30	Discussion

Friday, October 12th, 2007

Session IV

HORIZONS IN HEPARIN DEVELOPMENT

Moderators: **M. B. Donati**, Campobasso / **F. Markwardt**, Erfurt

- 14.30-14.45** **G. Torri**, Milan:
Application of advanced spectroscopic and other physico-chemical methods to the characterization of LMWHs
- 14.45-15.00** **G. Venkataraman**, Boston:
M118: novel low-molecular weight heparin for ACS
- 15.00-15.15** **E.A. Yates**, Liverpool:
Interactions of heparin and cations with protein signalling systems
- 15.15-15.30** **A. Calatzis**, Munich:
GAG's and other anticoagulants for inhibition of coagulation for platelet assays
- 15.30-15.45** **R. Schoeni**, Basel:
Pefakit PiCT product group for determination of GAG's and other anticoagulants
- 15.45-16.15** **Discussion**
- 16.15-16.35** **Coffee, tea**
- 16.35-16.55** **G. Nowak**, Jena:
Influence of heparin on platelet function – a study in heparinized blood of cardiac and haemodialysis patients
- 16.55-17.15** **A. Stemberger**, F. Matl, J. Aigner and H. Perea, Munich:
From glycosaminoglycans to directed cell seeding for surface coatings
- 17.15-17.35** **V. Laux**, Wuppertal:
New results of the oral direct factor Xa inhibitor rivaroxaban
- 17.35-18.00** **Discussion**

Saturday, October 13th, 2007

Session V	WORKSHOP ON THE DEVELOPMENT OF GENERIC LMWH PREPARATIONS
	Moderators: T. Barrowcliffe , London / A.K. Kakkar , London
8.30-8.45	E. Coyne , Maywood: Differences between origins and batch variations of heparins
8.45-9.00	P. Bianchini , Modena: Development of LMWH's – a problem for pharmaceutical companies to reproduce these drugs
9.00-9.15	B. Casu , Milan: LMWH's are different based on structural and biochemical characteristics
9.15-9.30	J. Harenberg on behalf of J. Fareed , Maywood: LMWH's are individual compounds based on comparative clinical pharmacology
9.30-9.45	C. Houiste , Paris: Molecular weight determination: comparison study between three GPC methods
9.45-10.00	A. Bisio / S. Bertini , Milan: Determination of molecular weight of LMWH's using the Triple Detection Array and conventional methods.
10.00-10.15	Coffee, Tea
10.15-10.30	B. Mulloy , Potters Bar: Old and new LMWH products from various viewpoints
10.30-10.45	A.K. Kakkar , London: Differences of LMWH's from data of postoperative medicine
10.45-11.00	J. Harenberg , Mannheim: Differences of LMWH's in treatment of acute venous thromboembolism
11.00-12.15	All: Discussion of a prepared consensus paper of the ad hoc working group on LMWH
12.15-12.30	B. Casu , Milan / J. Harenberg , Mannheim: Closing remarks

General Information

Thursday, October 11th, 2007

13.00 -14.00: Lunch in Villa Vigoni
19.00: Dinner in Villa Vigoni

Friday, October 12th, 2007

7.30 - 8.30: Breakfast
13.00 -14.00: Lunch in Villa Vigoni
19.00: Dinner in Villa Vigoni

Saturday, October 13th, 2007

7.30 - 8.30: Breakfast
12.30-13.30: Lunch in Villa Vigoni

Location of the Symposium:

"Villa Vigoni e.V."
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Registration: Thursday, October 11, 2007

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