

Course Program



Pre-Analytical Sample Processing in Biobanking

Practical Laboratory Course

February 4 - 6, 2015

**Institute of Pathology,
Medical University of Graz,
Auenbruggerplatz 25,
A-8036 Graz, Austria**

www.bbmri.at

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Practical Laboratory Course

Date	February 4 - 6, 2015
Location	Institute of Pathology, Medical University of Graz, Auenbruggerplatz 25, A-8036 Graz, Austria
Organizers & contact	<ul style="list-style-type: none">• BBMRI.at• Medical University of Graz• Christian-Doppler-Laboratory for Biospecimen Research and Biobanking Technologies• Kurt ZATLOUKAL, national node director BBMRI.at Medical University of Graz; kurt.zatloukal@medunigraz.at• Cornelia STUMPTNER, project manager BBMRI.at Medical University of Graz; cornelia.stumptner@medunigraz.at www.bbmri.at

Course description

Course objective

This course will provide in-depth theoretical insight and practical experience concerning variables during pre-analytical sample processing that are critical determinants for the quality of biological samples and further molecular analyses.

The participants will have the opportunity to perform major steps in pre-analytical sample processing in the laboratory.

Course content

- Assessment of critical pre-analytical steps in sample processing from patient to storage to analysis
- Influence of different sample stabilization procedures (tissue: formalin fixation, PAXgene fixation, snap freezing; blood: for analysis of free circulating DNA; urine: for metabolome analysis)
- Influence of different storage conditions
- Isolation of biomolecules
- Performance of quality control assays (RIN, spectrophotometer, electrophoresis, qRT-PCR)
- Documentation and data management
- Quality management (SOPs, ISO and CEN standards)
- Biosafety and biosecurity
- Ethical and legal requirements
- Presentation and visit of the Biobank Graz

Registration

We kindly ask you to **complete your registration and make the payment** of the registration fee no later than **Nov. 30, 2014**. This will be considered as final registration. This will guarantee your participation in the course. Otherwise your place will be given to other applicants since the course has been markedly oversubscribed. Please send the copy of your bank transfer by email to cornelia.stumptner@medunigraz.at.

Invoicing & Payment

For paying the course fee (€ 650,-) please use the following bank details:

- Recipient: Institute of Pathology Auenbruggerplatz 36, A-8036 Graz
- Bank name: Raiffeisen Landesbank Stmk.
- IBAN: AT353800000200049510
- BIC: RZSTAT2G
- Please indicate the **reference number IA A27 107 000 174** clearly and ensure that all bank charges are paid when making this payment.
- Purpose: Pre-analytics course fee

Accommodation

Accommodation has to be organised, booked and paid by the participants.

In order to assist you, we have prearranged rooms in 4 different hotels that are near or have good connections with public transport to the course location. Hotel names, prices, and contact data are listed below. For making your reservation use the **booking code "Preanalytics"** to receive the special price. Room prearrangements are valid until January 7, 2015. Please feel free to choose other accommodation if preferred.

Hotel	Contact	Single room per night incl. breakfast	Time to course location
Hotel Villa Rückert Rückertgasse 4 A-8010 Graz	Mrs. Lena Triebel hotel@rueckert.at +43 (0)316 323031	€ 62,00 to € 72,00	11 min walk
Palais Hotel Erzherzog Johann* Sackstraße 3-5, A-8010 Graz	Mrs. Magdalena Patz reception@erzherzog-johann.com +43 (0)316 811616	€ 74,00	25 min with tram No. 7 (direction St. Leonhard/LKH)
Das Weitzer* Grieskai 12-16 A-8020 Graz	Mrs. Elisabeth Pranch reservations@weitzer.com +43 (0)316 703-604	€ 75,00	30 min with tram No. 7 (direction St. Leonhard/LKH)
Romantik Parkhotel Graz* Leonhardstraße 8 A-8010 Graz	Mr. Baumgartner romantik@parkhotel-graz.at +43 (0)316 36300	€ 85,00	20 min with tram No. 7 (direction St. Leonhard/LKH)
Hotel Ibis Europaplatz 12 A-8020 Graz	Mrs. Marlene Ertler H1917@accor.com +43 (0)316 778303	€ 66,00	35-40 min with tram No. 7 (direction St. Leonhard/LKH)

*Located in the city centre

Cancellation policy

For cancellations received 45 calendar days before the beginning of the course, 50% of the paid fee will be refunded. After this 45 day rule, no refund will be possible. Cancellations must be sent to: cornelia.stumptner@medunigraz.at

Type	Content	Content Description	Duration	Time
Feb. 4, 2015 ::: Collection - Fixation - Embedding - Preparation of Sections for RNA Isolation :::				
-	Registration		30min	8:00-8:30
L	Lecture	Welcome & course details (content & objectives with special focus on the implementation of relevant European norms ISO standards)	30min	8:30-9:00
L, P, D	Collection & Stabilization/ Fixation (Tissue)	Documentation & data management	1h	9:00-10:00
		Cutting of tissue, stabilization/fixation (F=formalin, P= Paxgene, C=cryo)	1h	10:00-11:00
-	Coffee Break		20min	11:00-11:20
L	Lecture	Specific requirements for stabilization of tissues, blood, and urine samples	1h	11:20-12:20
D	Collection & Storage (Blood for cfDNA & urine for metabolome)	Blood collection, documentation, processing, storage	40min	12:20-13:00
		Urine collection, documentation, processing, storage	15min	13:00-13:15
-	Lunch Break		45min	13:15-14:00
L	Lecture	Preanalytical factors impacting on the quality of sample and subsequent analyses	50min	14:00-14:50
D,(P)	Tissue sections for RNA isolation (C, FFPE, PFPE)	Preparation of cryo sections for RNA isolation (incl. staining and evaluation)	1h	14:50-15:50
		Preparation of FFPE/PFPE sections for RNA isolation (incl. selection of tissue region - 2 methods)	1h	15:50-16:50
-	Coffee Break		20min	16:50-17:10
D,(P)	Tissue sections for RNA isolation (C, FFPE, PFPE)	Staining, evaluation & marking of FFPE/PFPE sections	1h	17:10-18:10

Type	Content	Content Description	Duration	Time
Feb. 5, 2015 ::: RNA Isolation & Quantification & Quality Control :::				
L	Lecture	Review day 1, agenda day 2 Documentation (importance and recommendations)	30min	8:00-8:30
P,D	RNA isolation (method 1,2,3)	from C tissue (Trizo 1... group 1) from FFPE (column method ... group 2) from PFPE tissue (column method ... group 3)	4h	8:30-12:30
L	Lecture	Preanalytical conditions especially for RNA extraction (G. Stanta, IT)	30min	12:30-13:00
L	Lecture	Preanalytical aspects in metabolomics (C. Luchinat, IT)	30min	13:00-13:30
-	Lunch Break		45min	13:30-14:15
Visit	Institute of Pathology	Site visit: Routine pathology processes (crossing, frozen section)	2x~20min	14:15-15:00
P,D	RNA quantification (by spectrophotometry)	Measurement using NanoDrop (C, F/P RNA)	15min	14:45-15:00
D	RNA QC (method 1: qRT-PCR-cDNA synth)	cDNA synthesis (parallel with cDNA synthesis, groups change after approx. 25min)	2x30min	15:00-16:00
D,P	RNA QC (method 2: RIN - Bioanalyzer)	Sample & chip preparation (parallel with cDNA synthesis, groups change after approx. 10-20min)	2x30min	15:00-16:00
-	Coffee Break		20min	16:00-16:20
Visit	Institute of Pathology	Site visit: Molecular diagnostics laboratories, tissue archive	45+15min	16:20-17:20

Type	Content	Content Description	Duration	Time
Feb. 6, 2015 ::: RNA Quality Control :::				
L	Lecture	Review day 2, agenda day 3 Quality control (methods and recommendations)	15min 30min	8:00-8:40
D	RNA QC (method 1: qRT-PCR - PCR)	Preparation of qRT-PCR mix (Chefl)	15min	8:45-9:00
Visit	Biobank Graz	Presentation & site visit	2h50min	9:10-12:00
-	Lunch Break		1h	12:00-13:00
L	Lecture	Protein analysis in tissues – critical considerations (K.F. Becker)	30min	13:00-13:30
L,D	RNA QC (comparison of methods)	qRT-PCR data interpretation & comparison of RNA QC methods	2h	13:30-15:30
	Coffee Break		20min	15:30-15:50
L	Lecture	Sample storage and retrieval Biosafety and biosecurity Ethical and legal requirements	20min each	15:50-16:50
-	Discussion and feedback	Discussion and feedback	1h	16:50-17:50
<u>Lectures given by:</u>				
Univ.-Prof. Dr. Kurt Zatloukal (Medical University of Graz, BBMRI.at and Dpt. of Pathology)				
Univ.-Prof. Dr. Karl-Friedrich Becker (Technical University of Munich, Dpt. of Pathology)				
Univ.-Prof. Giorgio Stanta (OEI - University of Trieste, Italy)				
Univ.-Prof. Claudio Luchinat (CERM/CIRMMP - University of Florence, Italy)				
Dr. med. Univ. Christian Viertler (Medical University of Graz, Dpt. of Pathology)				
L = Lecture; P = Practical laboratory work of participants; D = Demonstration in the laboratory				

Preliminary course programme (subject to change)