2007 Meeting of the Society for Whole-Body Autoradiography

March 18-21, 2007

Mill's House Hotel,
115 Meeting Street
Charleston, South Carolina, 29401,
USA

MEETING AGENDA

MONDAY MARCH 19, 2007			
Registration & Continental Breakfast			**8:00 am to 9:00 am**
Welcome	**9:00 am to 9:15 am**	**Eric Solon, SWBA President**	
KEYNOTE SPEAKER 9:15 am to 10:15 am **Dr. David Wilson** **Professor of Biomedical Engineering and Radiology** **Case Western Reserve University** **Founder BioInVision, Inc.**			
Session I	**Time**	**Session Chair**	**Drug Discovery and Development**
Introduction to Session	10:15 am to 10:20 am	William Waddel, University of Louisville, US	
Speaker IA	10:20 am to 10:50 am	Alfred Lordi, Quest Pharmaceutical Services, US	Whole-Body Tissue Distribution and Metabolic Profiling of 14C-AZT in Fetal and Maternal Tissues
Morning Break & Posters		**10:50 am to 11:20 am**	
Speaker IB	11:20 am to 11:50 am	Eric Solon, Quest Pharmaceutical Services, US	Distribution of [14C] Dalbavancin in Rabbit Bone and Related Tissues
Session Summary	11:50 am to 12:00 noon	William Waddel, University of Louisville, US	
Group Photo			**12:00-12:15pm**
Meeting Luncheon			**12:15-1:25pm**
Session II	**Time**	**Session Chair**	**Drug Discovery & New Methods**
Introduction to Session	1:25 pm to 1:30 pm	Brian Whitby, Covance Labs, UK	
Speaker IIA	1:30 pm to 2:00 pm	Alain Schweitzer, Novartis, Switzerland	Macro-Autoradioluminography of Hard Tissues
Speaker IIB	2:00 pm to 2:30 pm	Marissa Vavrek, Merck, US	Metabolite ID from QWBA Sections Using Advion Nanomate ESI MS
Afternoon Break & Posters		**2:30 pm to 3:00 pm**	
Speaker IID	3:00 pm to 3:30 pm	David Wilson, Case Western Reserve University, US	Whole Mouse Cryo-Imaging
Speaker IID	3:30 pm to 4:00 pm	Michael Potchoiba, Pfizer, Groton, Ct, USA	A Quantification Method For Determining the Biodistribution of Tritium Labeled Compounds Using WBAL
Session Summary	4:00 pm to 4:05 pm	Brian Whitby, Covance Labs, UK	
Pre-Dinner Cocktails (Bus to Magnolia Plantation @ 5pm)			**6:00 pm to 7:00 pm**
Conference Dinner	**(Honors to be Bestowed)**		**7:00 pm to 9:00 pm**

MEETING AGENDA

TUESDAY MARCH 20, 2007			
Continental Breakfast			**8:00 am to 9:00 am**
Session III	**Time**	**Session Chair**	**Instrumentation & New Applications**
Introduction to Session	9:00 am to 9:05 am	Alfred Lordi, Quest Pharmaceutical Services, US	
Speaker IIIA	9:05 am to 9:35 am	Alain Schweitzer, Novartis	Label-free Molecular Imaging of Whole-body Tissues Sections by Mass Spectrometry
Speaker IIIB	9:35 am to 10:05 am	Ken Koeplinger, Merck, US	QWBA vs 19F Magnetic Resonance Spectroscopy (MRS) for a Fluorinated Nucleoside Drug: Translation of Preclinical Tissue Distribution Studies to the Clinic
Morning Break & Posters		**10:05 am to 10:30 am**	
Speaker IIIC	10:30 am to 11:15 am	Tadafumi Kawamoto, Tsurumi University, Japan	Glass Slide Transfer of Whole-Body Section for Histology Examination
Speaker IIID	11:15 am-11:45 am	Helen Minter, Unilever, UK	Skin Penetration and Micro-Autoradiography
Session Summary	11:45 am to 11:50 am	Alfred Lordi, Quest Pharmaceutical Services, US	
Meeting Luncheon			**12:00 noon to 1:00 pm**
Session IV	**Time**	**Session Chair**	**Drug Discovery & New Methods**
Introduction to Session	1:00 pm to 1:10 pm	Alain Schweitzer, Novartis, Switzerland	
Speaker IVA	1:10 pm to 1:45 pm	Cinthia Pastukova, Genentech, CA, USA	The effect of immune-complex formation on the biodistribution of [125I] labeled antibody in a mouse model: The use of QWBA in drug discovery
Speaker IVB	1:45 pm to 2:15 pm	Andrew Davis, Cameca, Trumbull, CT, USA	NanoSIMS – Subcellular Isotope Tracer Imaging
Poster & Exhibit Viewing & Afternoon Break			**2:15 pm to 3:00 pm**
ISSUES IN PHARMACEUTICAL RESEARCH - OPEN FORUM	3:00 pm to 5:00 pm	Chairman: Alain Schweitzer, Novartis, Switzerland Panel of Session Chairs	
(Dinner is up to individual)			

MEETING AGENDA

WEDNESDAY, MARCH 21, 2005			
Continental Breakfast		**8:00 am to 9:00 am**	
Session V	**Time**	**Session Chair**	**Regulatory & New Applications continued**
Introduction to Session	9:00 am to 9:05 am	Eric Solon, Quest Pharmaceutical Services, US	
Speaker VA	9:05 am to 9:35 am	Brian Whitby, Covance UK	The practicalities of carrying out ADME studies using large molecular weight radiolabelled bio-molecules
Speaker VB	9:35 am to 10:05 am	Birte Hofmann, Bayer HealthCare AG, Germany	Answering Specific Questions Preclinical Questions using WBA
Morning Break		**10:05 am to 10:30 am**	
Speaker VC	10:30 am to 11:00 am	Lee Crossman, Schering-Plough, Kenilworth, NJ, USA	Distribution of 14C-Florfenicol-Derived Radioactivity to Therapeutically-Targeted Tissues in a Calf Administered a Single Subcutaneous 14C-Florfenicol Dose as Resflor NMP (SCH 529752).
Speaker VD	11:00 am to 11:30 am	Alain Schweitzer, Novartis, Basle, Switzerland	Relevance of the Section Thickness Uniformity and Section-to-Section Thickness Reproducibility for Quantification
Summary of Session	11:30 am to 11:45 am	Eric Solon, Quest Pharmaceutical Services, US	
Meeting Close **Eric Solon**			**11:45 am to 12:00 noon**

Preparation of Multi-Purpose Fresh-Frozen Sections By Using a New Adhesive Film

Tadafumi Kawamoto, Radioisotope Research Institute, Tsurumi University, School of Dental Medicine, 2-1-3 Tsurumi, Tsurumi-Ku, Yokohama, Japan 230-8501; e-mail address: kawamoto-t@tsurumi-u.ac.jp

I reported on a new approach to preparing thin whole-body sections for histochemistry, immunohistochemistry, and light microscopical autoradiography at this conference in 2001. Cutting procedures were nearly identical to those used in the Ullberg method. However, to better prepare high-quality sections, a new adhesive film and disposable blade were used. This method resulted in 2 μm thick frozen sections that could be examined at high magnification with a light microscope. However, the method is not suitable for routine work because the adhesive film must be prepared before each use.
In 2003, I created following adhesive film sheets for routine work. Each film sheet is supported by released paper. Each sheet is cut to match the size of a sample block surface.

1. Cryofilm Type-1 has the strongest adhesive power. It supports a frozen section at approximately -29°C. The section can be immersed in acetone. Sections supported with Cryofilm Type-1 are used for histological staining without toluidine blue, histochemical staining, immunohistochemical staining, and in situ hybridization. The stained section is preserved between the adhesive film and the glass slide.
2. Cryofilm Type-2 has less adhesive power than Cryofilm Type-1. It does not permit dipping in either acetone or xylene. However, it allows histological staining with toluidine blue as well as histochemical staining, immunohistochemical staining, and in situ hybridization.
3. Transfer film is also used for histological staining, histochemical staining, immunohistochemical staining, and in situ hybridization. However, direct transfer of the stained section from the adhesive film to a saline-coated glass slide is possible.
4. LMD film is used to support sections cut by laser microdissection techniques. Collected specimens are used for gene analysis.

I have tried to develop adhesive films usable with a wide range of samples. I have devoted considerable attention to embedding mediums and mounting mediums. Design improvements in disposable blade holders and sample holders have been made. Cryofilm Type-2C is my most recent effort. It is used to support frozen sections at -37°C. It can be immersed in organic solutions such as alcohol, acetone, and xylene. Sections can be placed in a hot chamber (125°C) for more than one hour. Cryofilm Type-2C permits many types of staining including toluidine blue. The film adheres to a frozen block made of a new embedding medium strongly. This is an improvement over conventional embedding mediums such as CMC gel or OCT. Section preparation, staining, and mounting procedures are nearly identical to those described at this conference in 2001. The frozen block is cut with a disposable tungsten carbide blade (Leica TC65). Exposed tissue surface is covered with the adhesive film and then cut into 2~40 μm thick sections. The sections are removed from the cryochamber and instantaneously thawed. They are then immersed in 100% ethanol, fixed with a 4% paraformaldehyde solution (pH 7.4), and stained. The stained sections are sandwiched between the supporting plastic film and the glass slide for permanent preservation. Of course, the new embedding medium and mounting medium are used.

Thin sections from a rabbit thighbone, human bones, and other large samples (adult mice and rats) have been made. Complete thin sections (2 μm) have been prepared from adult rat thighbones, soft tissue, and a whole baby rat. Frozen sections from many other samples are possible. These include plants, fish, insect, grains, and assorted foodstuffs. Sections are applicable to a wide range of research techniques including histological staining, enzyme histochemistry, immunohistochemistry, in situ hybridization, laser microdissection, electron probe microanalysis, and autoradiography of water-soluble materials. Indeed, it is a very versatile and useful tool for a wide spectrum of biological research.
At this conference, I will use video and slide presentations to describe my methods and their applications.

MEETING ATTENDEES

Last Name	First Name	Company name
Anciaux	Katelijne	Janssen Pharmaceutica
Brown	Richard	Lablogic Systems, Ltd.
Crossman	Lee	Schering-Plough Research Institute
Dorenkamp	Claudia	Leica Microsystems Nussloch GmbH
Erickson	Jamie	Abbott Bioresearch Center
Flood	Dennnis	Novartis Pharmaceuticals
Fulton	Jeffrey	Hoffmann-LaRoche, Inc.
Geerts	Rita	Janssen Pharmaceutica
Hofmann	Birte	Schering AG
Kawamoto	Tadafumi	Tsurumi University
Knapp	Brian	Covance USA
Koeplinger	Ken	Merck Research Labs
Korsen	Ann	Leica Microsystems, Inc.
LaRocca	Shawn	Leica Microsystems, Inc.
Linehan	Stefan	WIL Research Labs, LLC
Lordi	Alfred	Quest Pharmaceutical Services
Marlowe*	Carolyn	William J. Waddell, Inc.
McKown	Jon	biospace USA
McNally*	William	SWBA Distinguished Fellow
Mehta	Drew	Vibratome Company
Minter	Helen	Unilever
Partridge	Elizabeth Ann	AstraZeneca
Pastukovas	Cinthia	Genetech Inc.
Patterson	Andrew	Charles River Laboratories, UK
Potchoiba	Michael	Pfizer
Press	Randy	Covance USA
Rebmann	Nina	QPS
Ren	Xiao	sanofi-aventis
Schweitzer*	Alain	Novartis Pharma
Sved	Dan	WIL Research Labs, LLC
Solon	Eric	Quest Pharmaceutical Services
Trawick	Dorothy	Array BioPharma
Vavrek	Marissa	Merck Research Labs
Viot	Delphine	UCB (Belgium)
Voller	Thomas	Washington University School of Medicine
Wadell*	Bill	University of Louisville
Whitby	Brian	Covance Labs Ltd.
Wilson	David	Case Western Reserve Uinversity
Zhen	Ji	sanofi-aventis
Zimmer	Manfred	sanofi-aventis

- Distinguished Fellow of the Society for Whole-Body Autoradiography