

**Edinburgh, Scotland  
May 8, 2013**

**11<sup>th</sup> Meeting of the  
European Epidermal Barrier Research Network **E<sup>2</sup>BRN****

**and**

**COST Action BM0903: Skin Barrier in Atopic Disease**



Scientific Organising Committee:

**Johanna Brandner** (Hamburg, Germany) **and**  
**Joke Bouwstra** (Leiden, the Netherlands)

Abstract Committee:

**Joke Bouwstra** (Leiden, the Netherlands)  
**Johanna Brandner** (Hamburg, Germany)  
**Wim Declercq** (Gent, Belgium)  
**Michel Simon** (Toulouse, France)

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Web sites: [www.e2brn.net](http://www.e2brn.net) [www.skinbad.eu](http://www.skinbad.eu)

Location:

**Meeting:** Edinburgh International Conference Center, Room Fintry

**Poster session:** Sheraton Hotel and Spa, Melville Suite (see map)

**Scientific program**

**8:30 – 10:10 Session 1**

**Chairs:**

**Sanja Kezic** (Amsterdam, the Netherlands), **Ryan O'Shaughnessy** (London, GB)

**8:30-8:55 Keynote lecture 1:**

**Yoshikazu Uchida** (San Francisco, USA)

**"The unique feature of epidermal barrier lipid formation"**  
(20 min + 5 min discussion)

- 8:55-9:20 Keynote lecture 2:**  
**Joke Bouwstra** (Leiden, the Netherlands)  
**"Skin lipid barrier of patients with atopic eczema"**  
(20 min + 5 min discussion)
- 9:20-9:32 Evelyne De Vuyst** (Namur, Belgium)  
**Cholesterol depletion induces similar cell responses in keratinocyte monolayers and reconstructed human epidermis**  
(10 min + 2 min discussion)
- 9:33-9:45 Katerina Vávrová** (Prague, Czech Republic)  
**The role of sphingosine chain length in skin ceramides**  
(10 min + 2 min discussion)
- 9:46-9:58 Hansjörg Baurecht** (Kiel, Germany)  
**Dense genotyping of six atopic dermatitis and 180 autoimmune risk loci in 2,425 atopic dermatitis patients**  
(10 min + 2 min discussion)
- 9:58-10:10 Richard Brans** (Osnabrück, Germany)  
**Role of filaggrin gene mutations and atopy in severe occupational irritant contact dermatitis of the hands**  
(10 min + 2 min discussion)

**10:10 – 10:40 Coffee break**

## **10:40 – 12:20 Session 2**

**Chairs:**

**Yves Poumay** (Namur, Belgium), **Natalie Jonca** (Toulouse, France)

- 10:40-11:05 Keynote lecture 3:**  
**Jens Schröder** (Kiel, Germany)  
**"Antimicrobial peptides in skin barrier function in normal skin and atopic dermatitis"**  
(20 min + 5 min discussion)
- 11:05-11:30 Keynote lecture 4:**  
**Michel Simon** (Toulouse, France)  
**"Filaggrin 2 and hornerin – more players in atopic dermatitis?"**  
(20 min + 5 min discussion)
- 11:30-11:42 Maja-Lisa Clausen** (Copenhagen, Denmark)  
**Human Beta-defensin-2 as a marker for disease severity and skin barrier properties in Atopic Dermatitis**  
(10 min + 2 min discussion)

**11:43-11:55 I-Hsin Kuo** (Rochester, NY; USA)  
**T helper (Th1, Th2 and Th17) cytokines differentially regulate the epidermal tight junction barrier**  
(10 min + 2 min discussion)

**11:56-12:08 Stefan Blunder** (Innsbruck, Austria)  
**Regulation of PPAR alpha in models of skin barrier disruption**  
(10 min + 2 min discussion)

**12.08 -12:20 H el ene Duplan** (Toulouse, France)  
**Interest of Pentyl-rhamnoside in prevention of xerosis dermatitis**  
(10 min + 2 min discussion)

## **12:20 – 15:20 Lunch and poster session (Sheraton Hotel!)**

(The lunch is not included in the fee)

**There will be 2 poster prizes**

## **15:20 – 17:00 Session 3**

**Chairs:**

**Matthias Schmuth** (Innsbruck, Austria) **Ellen van den Bogaard** (Nijmegen, the Netherlands)

**15:20-15:45 Keynote lecture 5:**  
**Heiko Traupe and Karin Aufenvenne** (Muenster, Germany)  
**"Transglutaminase-1 and skin barrier function and how to restore it"**  
(20 min + 5 min discussion)

**15:45-16:10 Keynote lecture 6:**  
**Wim Declercq** (Gent, Belgium)  
**"RIPK4 is required for keratinocyte differentiation and to prevent epithelial fusions"**  
(20 min + 5 min discussion)

**16:10-16:22 Christian B ornchen** (Hamburg, Germany)  
**Induction of eczema significantly changes calcium distribution in the epidermis**  
(10 min + 2 min discussion)

**16:23-16:35 Giovanna Crisante** (Lausanne, Switzerland)  
**Inhibition of the membrane-bound serine protease CAP1/Prss8 by serpins in skin**  
(10 min + 2 min discussion)

**16:36-16:48 Aishatz Naeem** (London, UK)  
**Cathepsin H, an Akt1 dependent epidermal protease involved in profilaggrin processing, is reduced in eczema**  
(10 min + 2 min discussion)

**16.48 -17:00 Verena Martinz** (Innsbruck, Austria)  
**Atopic dermatitis-like inflammation: role of acute versus chronic epidermal barrier impairment**  
(10 min + 2 min discussion)

## **Posters:**

1.  
**The role of C4-trans-double bond in skin ceramides**  
Barbora Školová, Kateřina Jandovská, Jarmila Zbytovská, Karel Palát, Alexandr Hrabálek, Kateřina Vávrová  
Hradec Králové, Czech Republic

2.  
**The role of sphingosine chain length in skin ceramides**  
Barbora Školová, Jakub Novotný, Jarmila Zbytovská, Barbora Janůšová, Karel Palát, Kateřina Vávrová  
Prague, Czech Republic

3.  
**The effect of sphingomyelin on the stratum corneum model membranes**  
Pullmannová Petra, Školová Barbora, Palát Karel, Vávrová Kateřina  
Hradec Králové, Czech Republic

4.  
**The stratum corneum water content and natural moisturization factor composition evolve with age and depend on body site**  
Elise Boireau, Arlette Baillet-Guffroy, and Georgios N Stamatas  
Châtenay-Malabry, Issy-les-Moulineaux, France

5.  
**Interest of Rhealba® oat plantlets on epidermal reparation**  
Hélène Hernandez-Pigeon, Isabelle Ceruti, Antony Caruana, Anne Mandeau, M.Florence Galliano, Hélène Duplan, Sandrine Bessou-Touya and Nathalie Castex-Rizzi  
Toulouse, France

6.  
**Mathematical modelling of multi-scale control mechanisms for skin**  
Elisa Dominguez Huettinger, Mark van Logtestijn, Andrea Weise, Georgios N Stamatas and Reiko J Tanaka  
London, UK; Toulouse, France

7.

**The effect of an emollient cream containing 5% urea on the biophysical properties of aged skin**

K. Brown, T. Higgs-Bayliss, J. Chittock, M. J. Cork, S. G. Danby

Sheffield, UK

8.

**The effect of topical anti-inflammatories on the skin barrier implications for the long-term treatment of atopic dermatitis**

J. Chittock, K. Brown, M. J. Cork and S. G. Danby

Sheffield, UK

9.

**Coal tar induces AhR-dependent skin barrier repair in atopic dermatitis**

EH van den Bogaard, J Bergboer, M Vonk-Bergers, I van Vlijmen-Willems, S Hato, P van der Valk, J Schröder, I Joosten, P Zeeuwen, J Schalkwijk

Nijmegen, The Netherlands; Kiel, Germany

10.

**Interest of Pentyl-rhamnoside in prevention of xerosis**

Marie-Florence Galliano, Cédric Carrasco, Sandrine Bessou-Touya, Hélène Duplan

Toulouse, France

11.

**Platinum Nanoparticles Effects on Primary Keratinocytes**

Piotr Konieczny, Anna Grazyna Goralczyk, Radoslaw Szmyd, Lukasz Skalniak, Joanna Koziel, Elzbieta Pyza, Francesca Larese Filon, Matteo Crosera, Agnieszka Cierniak, Ewa Zuba-Surma, Julia Borowczyk, Eliza Laczna, Justyna Drukala, Andrzej Klein, Jolanta Jura

Krakow, Poland; Trieste, Italy

12.

**Chymotrypsin-like protease activity in the stratum corneum is increased in atopic dermatitis and upon washing with soap**

S. Danby, M. J. Cork, J. Chittock, K. M. Martin, N. K. Tierney

Sheffield, UK; Skillman, NJ, USA

13.

**T helper (Th1, Th2 and Th17) cytokines differentially regulate the epidermal tight junction barrier**

IH Kuo, A DeBenedetto, T Yoshida, D.Y. Leung, L A. Beck

Rochester, NY; Denver, CO

14.

**Induction of eczema significantly changes calcium distribution in the epidermis**

Christian Börnchen, Eva M. Peters, Virgilio Failla, Martin J. Behne, Ingrid Moll, Johanna M. Brandner

Hamburg, Gießen, Berlin, Germany

15.

**Knockdown of filaggrin in a three-dimensional reconstructed human epidermis impairs keratinocyte terminal differentiation program**

V Pendaries, R Nachat, J Malaisse, Y Poumay, G Serre, and M Simon  
Toulouse, France; Namur, Belgium

16.

**Hornerin is a new target of calpain-1**

C-Y Hsu, M-C Méchin, A-A Raymond, J Henry, O Burlet-Schiltz, H Takahara, A-M Schmitt, G Serre, and M Simon  
Toulouse, France; Ibaraki, Japan

17.

**Role of filaggrin gene mutations and atopy in severe occupational irritant contact dermatitis of the hands**

Brans R, Landeck L, Visser M, Skudlik C, Kezic S, John SM  
Osnabrück, Germany; Amsterdam, The Netherlands

18.

**Cathepsin H, an Akt1 dependent epidermal protease involved in profilaggrin processing, is reduced in eczema.**

Aishath Naeem, Yanan Zhu, John Harper, Wei-Li Di, Ryan O'Shaughnessy  
London, UK

19.

**Stratum corneum ultrastructure and function in keratosis pilaris**

Robert Gruber, Jeffrey L. Sugarman, Jacob P. Thyssen, Elizabeth A. Mauldin, Debra Crumrine, Matthias Schmuth, Peter M. Elias  
San Francisco, CA, USA; Innsbruck, Austria

20.

**Dense genotyping of six atopic dermatitis and 180 autoimmune risk loci in 2,425 atopic dermatitis patients**

Hansjörg Baurecht, Elke Rodríguez, David Ellinghaus, Jorge Esparza-Gordillo, Christian Gieger, Richard H Duerr, Carsten Büning, Stefan Schreiber, Young-Ae Lee, Andre Franke, Stephan Weidinger  
Kiel, Berlin, Neuherberg, Germany

21.

**Genome-wide DNA methylation and expression pattern in different tissues of atopic dermatitis patients**

Elke Rodríguez, Hansjörg Baurecht, Franziska Wahn, Anja Kleinschmidt, Norman Klopp, Holger Prokisch, Martin Mempel, Liliana Cifuentes, Natalija Novak, Stephan Weidinger  
Kiel, Munich, Neuherberg, Bonn, Germany

22.

**Atopic dermatitis-like inflammation role of acute versus chronic epidermal barrier impairment**

Verena Martinz, Matthias Schmuth, Sandrine Dubrac  
Innsbruck, Austria

23.

**The regulatory T cell population is altered in atopic dermatitis**

Verena Martinz, Christoph H. Tripp, Robert Gruber, Daniela Finke, Christine Heufler-Tiefenthaler, Heidelinde Fiegl, Matthias Schmuth, Sandrine Dubrac  
Innsbruck, Austria; Basel, Switzerland

24.

**Low numbers of memory T cells correlate with minor CCL27 expression in prenatal human skin**

Michael Mildner, Marion Prior, Maria Gschwandtner, Christopher Schuster, Erwin Tschachler and Adelheid Elbe-Bürger  
Vienna, Austria

25.

**Regulation of PPAR alpha in models of skin barrier disruption**

Stefan Blunder, Sandrine Dubrac, Matthias Schmuth  
Innsbruck, Austria

26.

**Cholesterol depletion induces similar cell responses in keratinocyte monolayers and reconstructed human epidermis**

E. De Vuyst, J. Desle, C. de Rouvroit, S. Bessou-Touya, H. Duplan, M. Salmon, Y. Poumay  
Namur, Belgium; Toulouse, France; Les Isnes, Belgium

27.

**Human epidermis reconstructed from UVB-irradiated keratinocytes mimics premature ageing in human skin**

Lilian Julia Löwenau, Suvara Wattanapitayakul, Johanna M. Brandner, Günther Weindl, Monika Schäfer-Korting  
Berlin, Germany; Bangkok, Thailand, Hamburg, Germany

28.

**Caspase-14 transcriptional regulation and functional implications**

Michael Devos, Philippe De Groote, Janne Prawitt, Barbara Gilbert, Inge Bruggeman, Kirsten Leurs, Saskia Lippens, David Dombrowicz, Peter Vandenabeele, Wim Declercq  
Ghent, Belgium; Lille, France

29.

**Human Beta-defensin-2 as a marker for disease severity and skin barrier properties in Atopic Dermatitis**

Maja-Lisa Clausen, Jakob M. Jungersted, Paal S. Andersen, Hans-Christian Slotved, Karen A. Kroghfelt, Tove Agner  
Bispebjerg, DK; Copenhagen, Denmark

30.

**Inhibition of the membrane-bound serine protease CAP1Prss8 by serpins in skin**

Crisante, Frateschi, Sergi, Mérillat, Hummler  
Lausanne, Switzerland

31.

**The steroid and xenobiotic receptor pregnane X receptor controls epidermal homeostasis.**

Andreas Elentner, Nikos Yannoutsos, Matthias Schmuth, and Sandrine Dubrac  
Innsbruck, Austria

32.

**A novel nonsense mutation in CDSN responsible for Peeling Skin Disease with expression of a truncated corneodesmosin.**

A Mallet, M Kyriotou, K George, EA Leclerc, D Rivero, J Mazereeuw-Hautier, G Serre, M Huber, N Jonca and D Hohl  
Toulouse, France; Lausanne, Switzerland

33.

**Phenotypical characterisation of mice deficient for the channel activating protease 2Tmprss4**

Anna Keppner, Ditte Andreassen, Anne-Marie Mérillat, Edith Hummler  
Lausanne, Switzerland

34.

**Identification of a hyperkeratosis “signature” in lamellar ichthyosis Mdm2 inhibition prevents hyperkeratosis in lamellar ichthyosis models**

Gehad Youssef, Stuart Brown, Masahiro Ono, Wendy Heywood, Veronica Kinsler, Neil Sebire, Kevin Mills, John Harper, Ryan O’Shaughnessy  
London, UK

**The meeting is sponsored by:**





**Location:**

