

12th Meeting of the European Epidermal Barrier Research Network (E²BRN)

10-11 September, 2014

Copenhagen (Denmark)

Scientific Organising Committee: Nathalie Jonca (Toulouse, France) and Edith Hummler (Lausanne, Switzerland)

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Website: www.e2brn.org

Location: Tivoli Hotel and Congress Center, Room Lumbye

Scientific Program

Wednesday, September 10, 2014

9:00 - 10:30 **Session 1 (Topic: Barrier function and ichthyosis pathophysiology)**

Chairs: tbd

- 9:00 - 9:25 Keynote lecture 1: **David Kelsell (London, UK)**
Disease gene discovery: key protease functions in the epithelial barrier
(20 min + 5 min discussion)
- 9:25 - 9:50 Keynote lecture 2: **Claus-Werner Franzke (Freiburg, Germany)**
The ADAM17/EGFR signaling axis as modulator of the skin barrier homeostasis
(20 min + 5 min discussion)
- 9:50 -10:05 **Matthias Schäfer** (Zürich, Switzerland)
Activation of the transcription factor Nrf2 in the murine skin causes chloracne (MADISH)-like skin disease
(12 min + 3 min discussion)
- 10:05 -10:20 **P. Bland** (London, UK)
The up regulation of ABCA1 by the activation of LXR and PPAR α to renew archetypical differentiation in Harlequin Ichthyosis
(12 min + 3 min discussion)
- 10:20 -10:35 **Signe Bek** (Odense, Denmark)
Impaired epidermal barrier function compromises SREBP-mediated lipogenic gene expression in liver
(12 min + 3 min discussion)
- 10:35 -11:00 Coffee break

11:00 - 12:35 **Session 2 (Topic: Microbiome, antimicrobial barrier, proteases and inhibitors)**

Chairs: tbd

- 11:00 - 11:25 Keynote lecture 1: **Patrick Zeeuwen (Nijmegen, The Netherlands)**
Dynamics of the skin microbiome: the role of antimicrobial proteins and skin barrier components
(20 min + 5 min discussion)
- 11:25 - 11:50 Keynote lecture 2: **Leopold Eckhart (Vienna, Austria)**
Evolutionary genetics of S100 fused-type proteins
(20 min + 5 min discussion)
- 11:50 - 12:05 **E De Vuyst (Namur, Belgium)**
Alterations induced by IL-4, IL-13 and IL-25 in a reconstructed human epidermis are reminiscent of atopic dermatitis.
(12 min + 3 min discussion)
- 12:05 - 12:20 **M Bernard (Lyon, France)**
IL-1beta promotes atopic dermatitis phenotype in 3D reconstructed normal human epidermis
(12 min + 3 min discussion)
- 12:20 - 12:35 **Katja Bäsler (Hamburg, Germany)**
Positive influence of *Staphylococcus aureus* infection on tight junction functionality
(12 min + 3 min discussion)
- 12:35 - 13h00 Lunch break

13:00 - 14h30 **Poster viewing**

There will be 2 poster prizes

Thursday, September 11, 2014

8:00 - 10:00 **Session 3 (Topic: Adherens junctions and skin homeostasis)**

Chairs: tbd

- 8:00 - 8:25 Keynote lecture 1: **Sarah Küchler (Berlin, Germany)**
Impact of filaggrin on skin homeostasis . Results from studies in filaggrin-deficient skin models
(20 min + 5 min discussion)
- 8:25 - 8:50 Keynote lecture 2: **Carien Niessen (Cologne, Germany)**
Classical cadherins in the regulation of epidermal integrity and barrier function
(20 min + 5 min discussion)
- 8:50 - 9:05 **Merel A.W. Oortveld (Nijmegen, The Netherlands)**
Corneoconnectin: a novel skin-specific protein that interacts with late cornified envelope proteins and is induced upon skin barrier disruption
(12 min + 3 min discussion)
- 9:05 - 9:20 **Christiane Mathes (Saarland, Germany)**
Expression and localization of tight junction proteins and tight junction barrier function in porcine hair follicles
(12 min + 3 min discussion)
- 9:20 - 9:35 **Michel Simon (Toulouse, France)**
Filaggrin-2 is essential for proper keratinocyte differentiation in a three-dimensional reconstructed human epidermis
(12 min + 3 min discussion)
- 9:35 - 9:50 **V. van Drongelen (Leiden, The Netherlands)**
Filaggrin knockdown does not affect stratum corneum barrier properties of a human skin equivalent
(12 min + 3 min discussion)
- 9:50 - 10:00 **Presentation of the new COST network StanDerm**
SM John / S Kezic / J Brandner

Posters

- P1. The kinase RIPK1 acts as a guardian of skin homeostasis**
Lefebvre S, Takahashi N, Gilbert B, Duprez L, Leurs K, Berger SB, Bertin J, Gough PJ, Vandenabeele P, Declercq W.
Gent, Belgium
- P2. Loss of acyl-coA binding protein in mice results in increased inflammation in the skin**
Engelsby H, Neess D, Sandhoff R, Færgeman NJ.
Odense, Denmark; Heidelberg, Germany
- P3. Withdrawn**
- P4. Alterations in eicosanoid metabolism may impact PPARalpha signaling in a murine model of AD**
Blunder S, Rühl R, Radner F, Schmuth M, Dubrac S.
Innsbruck, Austria
- P5. PPAR agonists upregulate filaggrin expression and improve lipid composition and organization in a filaggrin knock down skin model**
Wallmeyer L, Lehnen D, Sochorova M, Skolova B, Schaefer-Korting M, Vavrova K, Küchler S.
Berlin, Germany; Hradec Kralove, Czech Republic
- P6. Silencing of *TMEM45A* gene in human keratinocytes alters some differentiation markers but does not impede epidermal morphogenesis**
Hayez A, Malaisse J, Lambert de Rouvroit C, Michiels C, Poumay Y.
Namur, Belgium
- P7. C-terminal filaggrin-2 targets the bacterial replication: a new antimicrobial mode of action?**
Hansmann B, Gerstel U, Schröder JM.
Kiel, Germany
- P8. Central role of *Cldn-1* in lesional but not in non-lesional atopic dermatitis**
Gruber R, Börnchen C, Rose K, Daubmann A, Peters EM, Danso M, Bouwstra JA, Hennies HC, Schmuth M, Brandner JM.
Innsbruck, Austria; Hamburg, Giessen, Cologne, Germany; Leiden, The Netherlands
- P9. Th2 cytokines induce atopic eczema like characteristics in human skin equivalents**
Danso MO, van Drongelen V, Mulder A, van Smeden J, El Ghalbzouri A, Bouwstra JA

Leiden, The Netherlands

- P10. Trichohyalin-like proteins have evolutionarily conserved roles in the morphogenesis of skin appendages**
Mlitz V, Strasser B, Jaeger K, Hermann M, Ghannadan M, Buchberger M, Alibardi L, Tschachler E, Eckhart L.
Vienna, Austria
- P11. Lipid to protein ratio plays an important role in the skin barrier function of atopic eczema patients**
van Smeden J, Janssens M, Puppels GJ, Lavrijsen APM, Caspers PJ, Bouwstra JA.
Leiden, Rotterdam, The Netherlands
- P12. Meaning of relative gene expression in multilayered cultures of epidermal keratinocytes.**
Malaisse J, Hermant M, Hayez A, Poumay Y, Lambert de Rouvroit C.
Namur, Belgium
- P13. Development of a perfusion chamber for the cultivation of 3d skin constructs**
Strüver K, Gorreja F, Friess W, Kuchler S.
Munich, Berlin, Germany
- P14. Changes to the *Stratum Corneum* after narrow-band UVB (311nm) phototherapy in polymorphic light eruption patients**
Pond EJ, O'Neill CA, Rhodes LE, Gibbs NK.
Manchester, UK
- P15. Ultrastructural analysis of skin substrates used for drug permeation studies.**
Abdayem R, Roussel L, Zaman N, Pirot F, Haftek M.
Lyon, France
- P16. Model stratum corneum membranes with sphingosine, phytosphingosine and dihydrosphingosine ceramides: Permeability & Biophysics**
Skolova B, Janusova B, Tesar O, Jandovska K, Hudska K, Palát K, Vavrova K.
Hradec Kralove, Czech Republic
- P17. Ceramides with Long (C16) and Very Long (C24) Acyls in Model Skin Lipid Membranes: Differences in Permeability and Microstructure**
Pullmannová P, Školová B, Hudská K, Kovářík A, Zbytovská J, Vávrová K
Hradec Kralove, Czech Republic
- P18. Organic osmolytes increase keratinocyte tight junction barrier function and protein expression**
El-Chami C, Haslam I, Steward M, O'Neill C, *Manchester, UK*
- P19. Reaction and regeneration to SLS according to filaggrin status and phenotype**
Bandier J.
Gentofte, Denmark

- P20. Human skin challenged by additives and contaminants migrating from consumer products: Can we trust its barrier function?**
Mielke N, Hutzler C, Kappenstein O, Vieth B, Luch A.
Berlin, Germany
- P21. Optical methods for measuring diffusion in skin**
Dreier J, Brewer J.
Odense, Denmark
- P22. Activation of the transcription factor Nrf2 in the murine skin causes chloracne (MADISH)-like skin disease**
Schäfer M, Willrodt AH, Kurinna S, Geusau A, Gruber F, Sorg O, Roop D, Sandhoff K, Saurat JH, Tschachler E, Schneider M, Bloch W, Beer HD, Werner S.
Zurich, Geneva, Switzerland; Vienna, Austria; Denver, USA; Bonn, Munich, Cologne, Germany
- P23. The up regulation of ABCA1 by the activation of LXR and PPAR α to renew archetypical differentiation in Harlequin Ichthyosis**
Bland P, Fell B, Kelsell DP.
London, UK
- P24. Impaired epidermal barrier function compromises SREBP-mediated lipogenic gene expression in liver**
Neess D, Bek S, Bloksgaard M, Marcher A-B, Fargeman N, Mandrup S
Odense, Denmark
- P25. Alterations induced by IL-4, IL-13 and IL-25 in a reconstructed human epidermis are reminiscent of atopic dermatitis.**
De Vuyst E, Giltaire S, Lambert de Rouvroit C, Chrétien A, Salmon M, Poumay Y., *Namur, Les Isnes, Belgium*
- P26. IL-1 β promotes atopic dermatitis phenotype in 3D reconstructed normal human epidermis.**
Bernard M, Guiraud B, Bessou-Touya S, Duplan H, Rozieres A, Goujon C, Nicolas JF, Vocanson M, Galliano MF.
Lyon, Toulouse, France
- P27. Positive influence of *Staphylococcus aureus* infection on TJ functionality**
Bäsler K, Galliano MF, Houdek P, Guiraud B, Vidal-y-Sy S, Wladykowski E, Käfer J, Bessou-Touya S, Duplan H, Brandner JM.
Hamburg, Germany, Toulouse, France
- P28. Corneoconnectin: a novel skin-specific protein that interacts with late cornified envelope proteins and is induced upon skin barrier disruption**
Oortveld MAW, Kersten FF, Eeftens J, Niehues H, van Vlijmen-Willems IMJJ, Zeeuwen PLJM, Schalkwijk J.

Nijmegen, The Netherlands

P29. Expression and localization of tight junction proteins and tight junction barrier function in porcine hair follicles

Mathes C, Brandner JM, Hansen S, Vidal-y-Sy S, Schaefer U, Lehr CM.
Saarbrücken, Hamburg, Germany

P30. Filaggrin-2 is essential for proper keratinocyte differentiation in a three-dimensional reconstructed human epidermis.

Pendaries V, Le Lamer M, Cau L, Malaisse J, Hansmann B, Kezic S, Serre G, Simon M.
Toulouse, France, Namur, Belgium, Amsterdam, Netherlands, Kiel, Germany

P31. Filaggrin knockdown does not affect stratum corneum barrier properties of a human skin equivalent

Van Drongelen V, Danso MO, Bouwstra JA, El Ghalbzouri A.
Leiden, The Netherlands

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