

CONTENTS

Abstracted / indexed in Biological Abstracts; Elsevier BIOBASE / Current Awareness in Biological Sciences; Current Contents / Life Sciences; EMBASE; Index Medicus; Informedicus; Pascal M; ScienceDirect; Scopus

Special Issue: Sixteenth Conference on the Adrenal Cortex (Adrenal 2014)

Guest Editor

Dr. Bernard P Schimmer

Contents

Editorial

Sixteenth Conference on the Adrenal Cortex (Adrenal 2014), Chicago, Illinois, June 17–20, 2014

B.P. Schimmer (Canada)

1

The Keith Parker Memorial Lecture

Introduction to the 2014 Adrenal Cortex Conference Keith L. Parker Memorial Lecturer: Bernard Schimmer, Ph.D.

W.E. Rainey (USA)

2

Corticotropin (ACTH) regulates alternative RNA splicing in y1 mouse adrenocortical tumor cells

B.P. Schimmer, M. Cordova (Canada)

5

Receptors and cell signaling

Views on the co-evolution of the melanocortin-2 receptor, MRAPs, and the hypothalamus/pituitary/adrenal-interrenal axis

R.M. Dores, Y. Garcia (USA)

12

Helix 8 of the ligand binding domain of the glucocorticoid receptor (GR) is essential for ligand binding

Q. Deng (USA, China), B. Waxse, D. Riquelme (USA), J. Zhang (China), G. Aguilera (USA)

23

Novel interactions of the mineralocorticoid receptor

P.J. Fuller (Australia)

33

OxeR1 regulates angiotensin II and cAMP-stimulated steroid production in human H295R adrenocortical cells

M. Dattilo, I. Neuman, M. Muñoz, P. Maloberti, F. Cornejo Maciel (Argentina)

38

cAMP-activated Nr4a1 expression requires ERK activity and is modulated by MAPK phosphatase-1 in MA-10 Leydig cells

M. Mori Sequeiros Garcia, A. Gorostizaga (Argentina), L. Brion (Sweden), S.I. González-Calvar, C. Paz (Argentina)

45

StAR and Steroidogenic Cholesterol

The binding site specificity of STARD4 subfamily: Breaking the cholesterol paradigm

D. Létourneau, A. Lefebvre, P. Lavigne, J.-G. LeHoux (Canada)

53

Transcriptional activation of LON Gene by a new form of mitochondrial stress: A role for the nuclear respiratory factor 2 in

StAR overload response (SOR)

A. Bahat, S. Perlberg, N. Melamed-Book, S. Isaac, A. Eden (Israel), I. Lauria, T. Langer (Germany), J. Orly (Israel)

62

The role of mitochondrial fusion and StAR phosphorylation in the regulation of StAR activity and steroidogenesis

A.F. Castillo, U. Orlando, K.E. Helfenberger, C. Poderoso, E.J. Podesta (Argentina)

73

Stimulation of StAR expression by cAMP is controlled by inhibition of highly inducible SIK1 via CRTC2, a co-activator of CREB

J. Lee, T. Tong (USA), H. Takemori (Japan), C. Jefcoate (USA)

80

Translocator protein-mediated pharmacology of cholesterol transport and steroidogenesis

V. Papadopoulos, Y. Aghazadeh, J. Fan, E. Campioli (Canada), B. Zirkin (USA), A. Midzak (Canada)

90

Regulation of Genes, Enzymes and Pathways of Steroidogenesis

The post-translational regulation of 17,20 lyase activity

W.L. Miller, M.K. Tee (USA)

99

Relative contribution of P450c17 towards the acute cortisol response: Lessons from sheep and goats

D. Hough (South Africa, UK), K. Storbeck, S.W.P. Cloete, A.C. Swart, P. Swart (South Africa)

107

11 β -hydroxyandrostenedione: Downstream metabolism by 11 β HSD, 17 β HSD and SRD5A produces novel substrates in familiar pathways

A.C. Swart, K.-H. Storbeck (South Africa)

114

Regulation of androgen biosynthesis – A short review and preliminary results from the hyperandrogenic starvation NCI-H295R cell model

P. Kempná, N. Martí, S. Udhane, C.E. Flück (Switzerland)

124

Identification of novel steroidogenic factor 1 (SF-1)-target genes and components of the SF-1 nuclear complex

T. Mizutani, S. Kawabe, S. Ishikane, Y. Imamichi, A. Umezawa, K. Miyamoto (Japan)

133

How genomic studies have improved our understanding of the mechanisms of transcriptional regulation by NR5A nuclear receptors	138
C. Ruggiero, M. Doghman, E. Lalli (France)	
Adrenal differentiation	
Steroidogenic organ development and homeostasis: A WT1-centric view	145
R. Bandiera (UK), S. Sacco, V.P.I. Vidal, M.-C. Chaboissier, A. Schedl (France)	
Adrenal cortex tissue homeostasis and zonation: A WNT perspective	156
C. Drelon (France), A. Berthon (France, USA), M. Mathieu, A. Martinez, P. Val (France)	
Toying with fate: Redirecting the differentiation of adrenocortical progenitor cells into gonadal-like tissue	165
T. Röhrig (USA, Germany), M. Pihlajoki (USA, Finland), R. Ziegler (USA, Germany), R.S. Cochran (USA), A. Schrade (USA, Finland), M. Schillebeeckx, R.D. Mitra (USA), M. Heikinheimo (USA, Finland), D.B. Wilson (USA)	
Adrenomedullary progenitor cells: Isolation and characterization of a multi-potent progenitor cell population	178
V. Vukicevic, M.F. Rubin de Celis, N.S. Pellegata, S.R. Bornstein, A. Androutsellis-Theotokis, M. Ehrhart-Bornstein (Germany)	
Adrenal-related Clinical Disorders	
Current approaches to the pharmacological management of Cushing's disease	185
M.E. Molitch (USA)	
Management considerations for the adult with congenital adrenal hyperplasia	190
R.J. Auchus (USA)	
Paracrine control of steroidogenesis by serotonin in adrenocortical neoplasms	198
H. Lefebvre, C. Duparc, G. Prévost, M.C. Zennaro, J. Bertherat, E. Louiset (France)	
3β -hydroxysteroid dehydrogenase isoforms in human aldosterone-producing adenoma	205
S. Konosu-Fukaya, Y. Nakamura, F. Satoh, S.J.A. Felizola, T. Maekawa, Y. Ono, R. Morimoto, K. Ise, K. Takeda, K. Katsu, F. Fujishima, A. Kasajima, M. Watanabe, Y. Arai (Japan), E.P. Gomez-Sánchez, C.E. Gomez-Sánchez (USA), M. Doi, H. Okamura, H. Sasano (Japan)	
Somatic mutations of the <i>ATP1A1</i> gene and aldosterone-producing adenomas	213
C.E. Gomez-Sánchez, M. Kuppusamy, E.P. Gomez-Sánchez (USA)	
Functional histopathological markers of aldosterone producing adenoma and somatic <i>KCNJ5</i> mutations	220
F.L. Fernandes-Rosa, L. Amar, F. Tissier, J. Bertherat, T. Meatchi, M.-C. Zennaro, S. Boulkroun (France)	
The Hypothalamic-Pituitary Adrenal Axis and Critical Illness	
Dynamics of adrenal glucocorticoid steroidogenesis in health and disease	227
F. Spiga, S.L. Lightman (UK)	
The HPA axis response to critical illness: New study results with diagnostic and therapeutic implications	235
B. Peeters, E. Boonen, L. Langouche, G. Van den Berghe (Belgium)	
The role of adrenal gland microenvironment in the HPA axis function and dysfunction during sepsis	241
W. Kanczkowski, M. Sue, K. Zacharowski, M. Reincke, S.R. Bornstein (Germany)	