# A Special Issue on the Epididymis &

# Proceedings of the Fourth Workshop on the Epididymis (Epid IV)

December 4-7, 2006, Chatel-Guyon, France

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Preface



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# A Special Issue on the Epididymis & The Proceedings of the Fourth Workshop on the Epididymis (Epid IV)

Joël R. Drevet, Barry T. Hinton, Trevor G. Cooper

The Fourth Epididymis (Epid IV) Workshop was held between December 4th and 7th 2006 in Chatel-Guyon, France. This was the first European venue for these workshops following Epid III held in Charlottesville, Virginia, USA in 2002, Epid II held in Newcastle, Australia in 1998 and a one-day meeting (later named Epid I) in Hong Kong, China in 1992. The 2006 meeting was organised by Drs Joël R. Drevet (Aubière, France) and Trevor G. Cooper (Münster, Germany) and was a satellite meeting of the Fourth European Congress of Andrology (ECA2006) which followed in Toulouse (France) from December 8th to 10th. Epid IV was attended by 90 basic science researchers from 14 countries. The hotel accommodation was adjacent to the meeting hall and the meeting proved an equal distraction to the lure of the Casino in the same building! Posters were viewed from the beginning to the end of the workshop and frequent coffee breaks were organised among them to facilitate scientific exchange. In these hospitable conditions old acquaintances were revived and new friendships made.

The meeting started with an introductory lecture given by Russell Jones (Newcastle, Australia) on comparative epididymology and was followed by 8 sessions of 4 to 5 presentations each (see the programme below for a detailed list of speakers) in which various aspects of epididymal physiology were covered: sperm maturation and storage, cellular and gene expression activities of the epididymal epithelium, recent advances in global approaches of the epididymal transcriptome and proteome as well as the presentation of some putative epididymal contraceptive targets. The last session of the programme was devoted to research carried out on the human epididymis and most of the speakers in this session were also invited speakers at the ECA2006 meeting. A session was also devoted to presentations given by young investigators who were selected from the 36 poster abstracts received. The final lecture was given by David Hamilton (Mineapolis, MA, USA) on December 7th. As he could not attend the meeting, he provided it as a video presentation. His talk entitled "The ~Omes are coming!" illustrated what, from his point of view, would be epididymal research in the 21st century. During the meeting the site of the next epididymis workshop was discussed. Drs P. S. Cuasnicú (Argentina) and M. C. W. Avellar (Brazil) stepped forward to propose the idea that South America could host the next Epididymis workshop in 2010.

Most of the speakers agreed to produce a manuscript of their presentations that are collected in this Special Issue of the *Asian Journal of Andrology*.

#### Speakers of the Fourth Epididymis Workshop and talk titles:

#### Session: Comparative Epididymology

Russell C. Jones (Newcastle, Australia): The epididymis plays a significant role in sperm competition

#### Session: Sperm Maturation and Storage

Susan Hall (Chapel Hill, NC, USA): Characterisation and functions of beta-defensins in the the epididymis Hiro Takano (Sapporo, Japan): Sperm atomic force microscopy/Proteins Roy Jones (Cambridge, UK): FRAP analyses of spermatozoa Srinivasan Vijayaraghavan (Kent, OH, USA): Development of mechanisms of sperm motility

#### Session: Epididymal Epithelium

Robert Sullivan (Laval, Quebec, Canada): Epididymosomes are invoved in the acquisition of new sperm proteins during epididymal transit

Sylvie Breton (Charlestown, MA, USA): New insights into the regulation of luminal acidification in the epididymis Daniel Cyr (Montreal, Quebec, Canada): Understanding the blood-epididymis barrier. From animals to humans

#### Session: Epithelial Gene Expression

Gail A. Cornwall (Lubbock, TX, USA): Extracellular quality control in the epididymis and its role in fertility Matti Poutanen (Turku, Finland): Identification of novel epididymal proteins Kishiya Suzuki (Nashville, TN, USA): Epididymis-specific lipocalin promoter

Ken Roberts (Mineapolis, MA, USA): Structure and function of epididymal protein CRISP-1

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#### Session: Epithelial Regulation

Bernard Robaire (Montreal, Quebec, Canada): Androgenic regulation of novel genes in the epididymis Barry T. Hinton (Charlottesville, VA, USA): Tubular morphogenesis of the developing Wolfian/epididymal duct Miles Wilkinson (Houston, TX, USA): *Rhox* homeobox genes and the epididymis Fabrice Saez (Aubière, France): Oxysterol/Liver X receptors and epididymal epithelium physiology

#### Session: Rodent Epididymis Transcriptome/Proteome: Global Approaches

Daniel Johnston (Collegeville, PA, USA): Segmental analysis of rat/mouse epididymal proteome Terry T. Turner (Charlottesville, VA, USA): Efferent duct ligation induces dedifferentiation in segments of the rat epididymis

#### Session: Epididymal Contraceptive Targets

John Aitken (Newcastle, Australia): Mouse epididymal sperm proteome

Patrick Vernet (Aubière, France): GPX5: a target for male fertility?

Ulrich Gottwald (Berlin, Germany): HE6 (GPR64) as a target for male fertility: assets and drawbacks

Patricia S. Cuasnicú (Buenos Aires, Argentina): Evidence for the participation of cysteine-rich secretory proteins (CRISP) in fertilization

#### Session: Epithelium-Sperm Interactions

Trevor G. Cooper (Münster, Germany): Sperm-osmolyte interactions

#### Session: Selected Trainee Oral Presentations

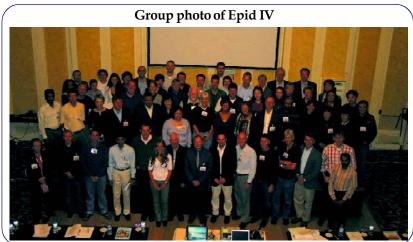
Adam Raymond (Atlanta, GA, USA): Defective epididymal epithelial integrity in SED-1-null mice

- Clémence Belleannée (Tours-Nouzilly, France): Purification and identification of sperm surface proteins related to sperm maturation
- Yuan C. Zhou (Shanghai, China): RNAi *in vivo* knock-down of rat epididymis-specific HongrES1 expression causes sperm capacitation defect and reduced fertility
- Anton Krutskikh (London, UK): Targeted disruption of the *RNase10* gene in mouse results in loss of sperm adhesiveness and severe male subfertility

#### Session: The Human Epididymis

Jean Louis Dacheux (Tours-Nouzilly, France): Human epididymal proteome

- Monika Jacob (Bochum, Germany): Human epididymal development
- Åbe Lundwall (Malmö, Sweden): A locus on chromosome 20 encompassing genes that are highly expressed in the epididymis
- Ursula Habenicht (Berlin, Germany) (Presented by U. Gottwald): Public-private partnership and its role for developing new contraceptive strategies



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