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Preface

This special issue is based on a session entitled "Epithelial Anion Transport—An Integrative Perspective" at the Society of Experimental Biology's annual meeting held in Southampton, UK on 31st March–4th April 2003. As organizers of this session and as guest editors of the present special issue, we wish to thank the Society of Experimental Biology (SEB) for hosting and supporting the session and BBA for monetary support. In addition, we would like to thank the contributors of the posters and platform presentations, as well as those that provided the manuscripts contained within this issue.

The aim of the session in Southampton was to provide a forum whereby eminent scientists from around the world could present, and discuss, state-of-the-art information on various aspects of epithelial anion transport. The comparative physiological flavour of the session was highlighted by the diverse array of terrestrial and aquatic vertebrate and invertebrate models that these scientists utilize.

The morning session initially focused on chloride transport. The first two presentations introduced our current understanding of chloride and sodium transport in the Euryhaline teleost fish, *Fundulus heteroclitus*. This was followed by a presentation on CFTR-mediated chloride transport by mitochondria-rich cells from the toad skin. Two following presentations discussed the involvement of ATPases in active chloride transport; the first regarding the existence and nature of a Cl^- ATPase in the marine invertebrate, *Aplysia californica*, whilst the second offered an analysis of proton pump driven chloride uptake from dilute media. The subsequent two presentations introduced piscine intestinal bicarbonate transport. The first discussed chloride/bicarbonate exchange in marine teleost intestine and its implications for luminal chemistry and potential involvement in osmoregulation. This was followed by a discussion of the distribution and function of sodium:bicarbonate co-transporters in absorptive epithelia in the rainbow trout. The afternoon was completed by presentations on organic and inorganic anion transport by tubular epithelia of terrestrial organisms, one considering the mammalian renal tubule and the other considering insect malpighian tubules and hindgut.

Due to the unfortunate loss of a close family member, one of our invited speakers had to leave Southampton the night before our session. Our sincere condolences go to this colleague and his family.

This volume of BBA contains many of the scientific contributions to our session at the SEB meeting and we believe and hope that cross-fertilization of related yet traditionally distinct areas of research was achieved.

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