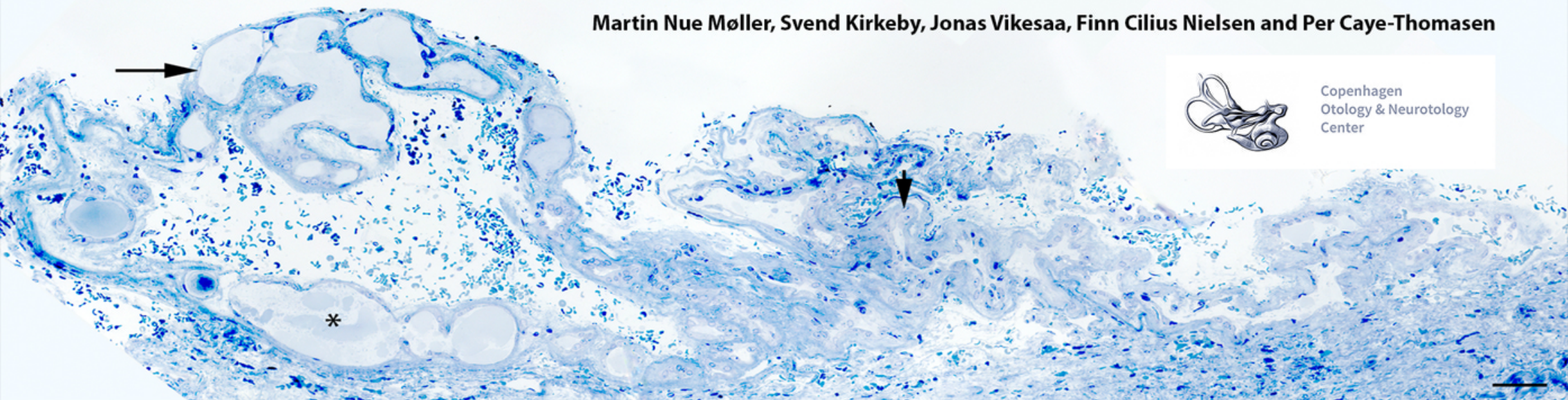


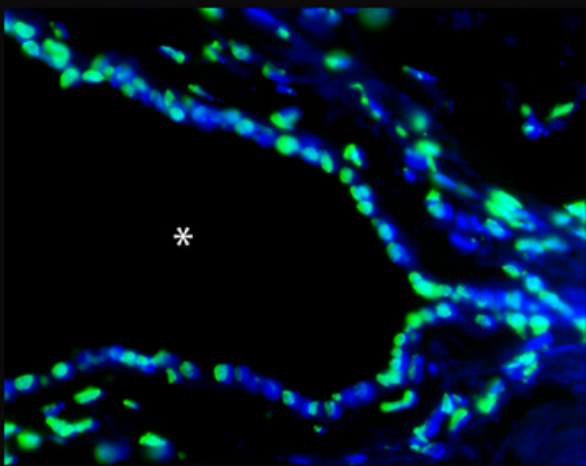
The Human Endolymphatic sac has natriuretic capabilities

Martin Nue Møller, Svend Kirkeby, Jonas Vikesaa, Finn Cilius Nielsen and Per Caye-Thomasen

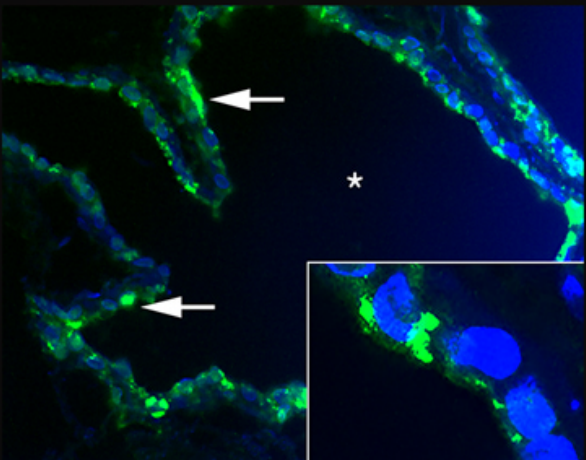


A microarray and immuno-histochemical study, aiming to explore and demonstrate potential natriuretic peptides in the human endolymphatic sac

Multiple genes with direct natriuretic capability was identified and subsequently verified by immuno-histochemistry, including:



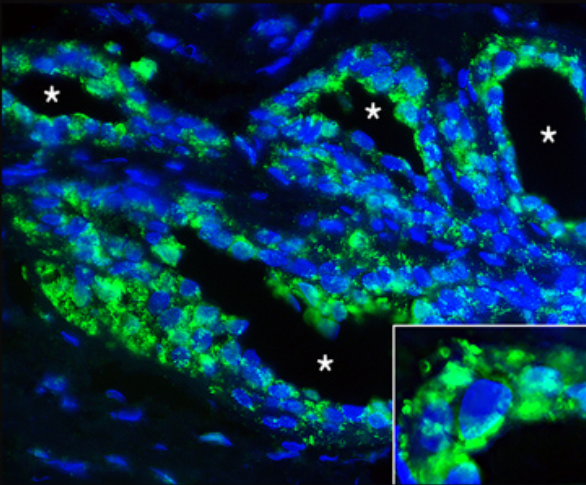
Brain natriuretic peptide (BNP)



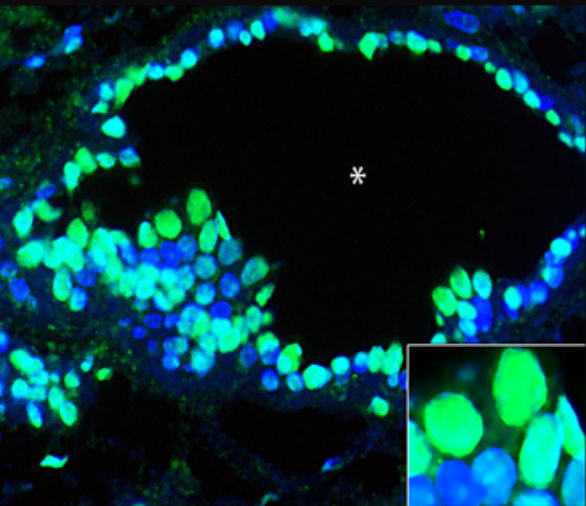
C-type natriuretic peptide (CNP)



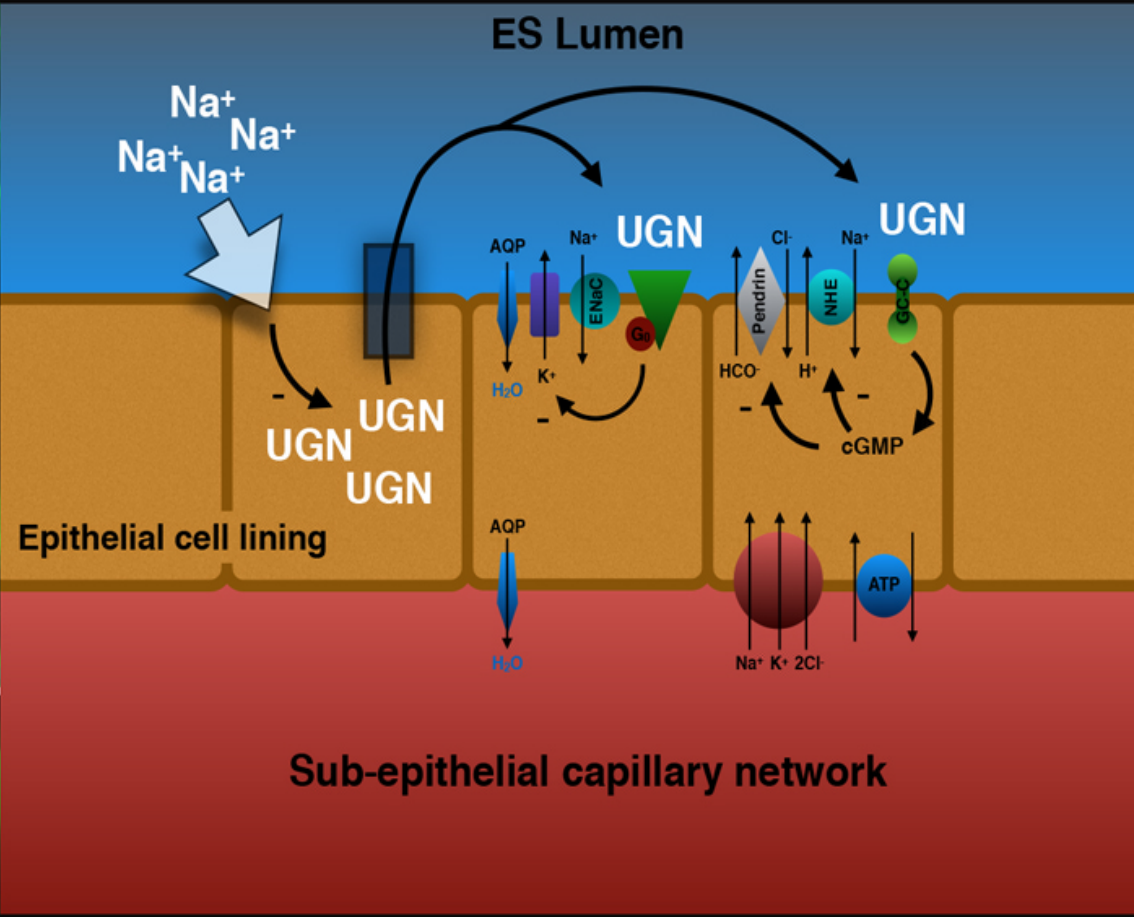
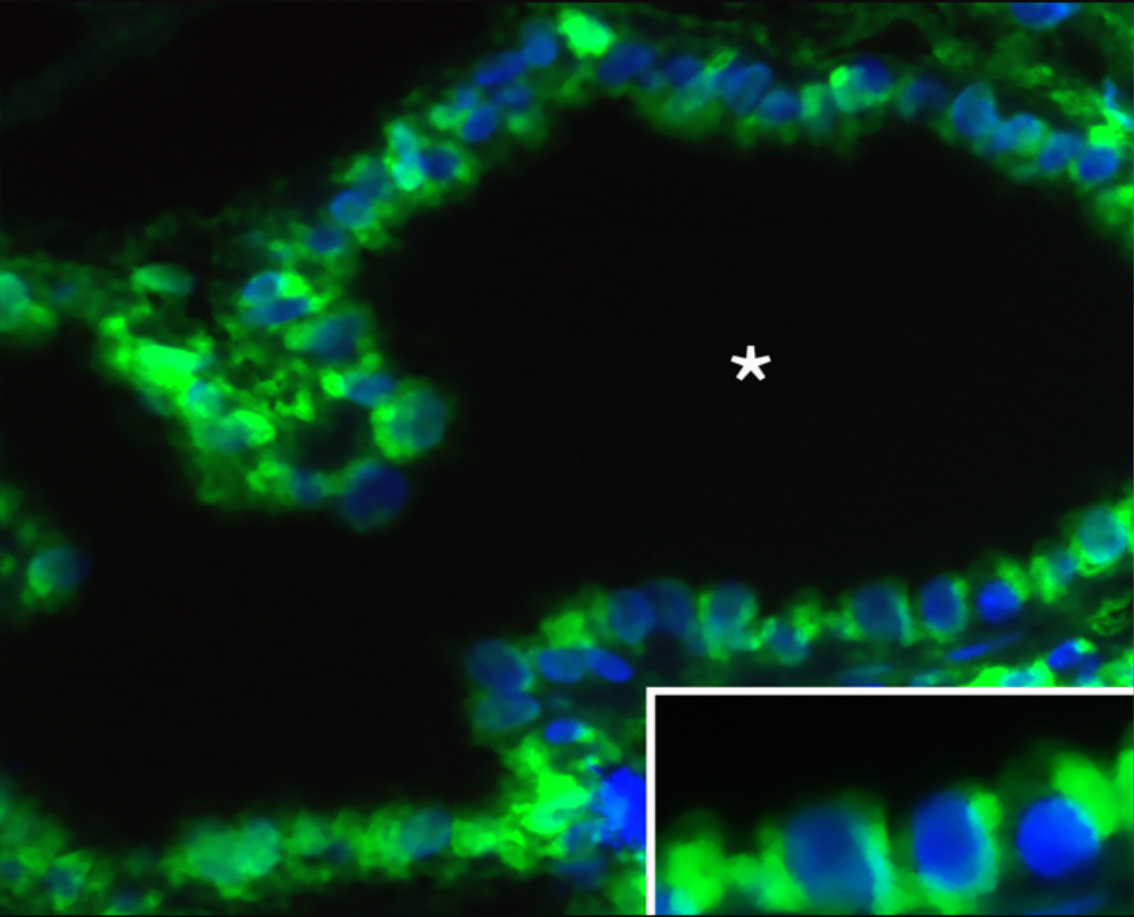
Adrenomedullin 2/Intermedin



Oxytocin (OXT)



Perhaps most significant finding was Uroguanylin (UGN) in the ES epithelia. This specific peptide is a potent natriuretic through regulation of Pendrin as well as several sodium channels



Conclusion:

The human endolymphatic sac expresses several potent natriuretic peptides. Thus it may have true endocrine and/or paracrine capabilities and is likely to regulate inner ear homeostasis, but may also influence systemic and/or intracranial blood pressure