

Extracellular Matrix of the Female Reproductive Tract

Phyllis Leppert, MD, PhD, and Kristof Chwalisz, MD, PhD

Since 1990, a group of international reproductive scientists working in the field of extracellular matrix (ECM) biology have been meeting on alternate years to present their work, encourage collaborations, stimulate new approaches to the reproductive sciences, and promote an understanding of the ECM as it pertains to reproduction and the female reproductive tract. Over almost 2 decades, the 3-day conferences convened in Rochester, New York; Toronto, Canada; Mishima, Japan; Stockholm, Sweden; Goettingen, Germany; Bethesda, Maryland; Edinburgh, Scotland; and Maui, Hawaii, have fostered important collaborations and stimulated new approaches to scientific investigation in reproduction. As matrix-cell interactions and the complex activation pathways of solid-state signaling in which the ECM plays a very important role have unraveled, their importance in reproductive biology has become evident. New insights into the menstrual cycle, ovulation implantation, uterine cervical softening and dilatation, and the pathogenesis of uterine fibroids have all been provided by our understanding of the interaction of the ECM with the cells of the reproductive tract.

This supplement to *Reproductive Sciences* contains a number of articles presented at the last international conference meeting, referred to over the years as ECMFRT, or the extracellular matrix of the female reproductive tract. Held in Maui, Hawaii, the conference again provided a venue for open discussion and stimulation of new

approaches to the field. New insights into premature rupture of the membranes and mechanotransduction or solid-state signaling, the role of 3-dimension culture systems in reproduction, biomechanics, ECM remodeling, and the role of matrix metalloproteinases and tissue inhibitors of metalloproteinases in ovarian function and changes in ECM in uterine fibroids were a few of the topics presented and discussed. This supplement presents some of the articles presented at the meeting that stimulated discussion. We hope that they will serve the same purpose for the readers of this publication.

Finally, the ECMFRT is maturing and changing. It is time for a new conference format and a larger audience. Accordingly, the leadership of the ECMFRT will organize a new Extracellular Matrix Satellite Meeting at the Society for Gynecologic Investigation (SGI) annual meeting. Although the format of the satellite meetings is vastly different from the past meetings, the same spirit of intellectual curiosity and stimulating discussion will continue. We will gain by having more scientists, especially younger scientists, in attendance and the opportunity to expose the exciting field of ECM to the entire SGI membership. The format of 6 speakers in the satellite meetings provides for cross-talk between scientific areas because it allows for the ability of attendees at one meeting to attend presentations relevant to them at other satellite meetings. Thus, we hope that we will be able to generate even more interest in matrix biology.