

**FINAL REPORT**  
**FASEB SUMMER RESEARCH CONFERENCE**

**Thrombospondins and other Matricellular Proteins in Tissue Organization and Homeostasis**  
**July 18-23, 2010**  
**Snowmass Village, Colorado**

**Organizers:**  
**David Roberts, PhD**  
**Joanne Murphy-Ullrich, PhD**

The 2010 FASEB meeting on Thrombospondins and other Matricellular Proteins in Tissue Organization and Homeostasis was held at the Snowmass Conference Center. This was the third FASEB SRC to be held on this topic, with the previous meetings held in Tucson, AZ in 2007 and Pine Mountain, GA in 2004. The purpose of this conference was to discuss progress in studying matricellular proteins, focusing on their structure-function and evolutionary relationships, developmental biology, receptors and signaling, and their context-specific functions in major body tissues. Several matricellular proteins are now known to have key physiological and pathophysiological roles in development, human genetic diseases, cardiovascular disease, diabetes, inflammation, wound healing, and cancer. The objective of this meeting was to bring together leading experts from the basic and clinical areas, young investigators, postdoctoral fellows, and students to exchange data, ideas and reagents and accelerate fundamental research and translational applications in this field. The majority of leading experts in the field attended, including several who have not previously attended this meeting. This year's 83 registrants were increased 15% from the 72 registered in 2007. Although we did not achieve our goal of 100 attendees, this increase under challenging economic conditions demonstrates the growing viability of this field and the strong commitment of our participants to this meeting. The meeting had a strong international representation (20%), including 9 of the invited speakers, with attendees from 12 countries. Approximately 45% of attendees were women, including 14 of the invited speakers, 4 Session Chairs, and the Co-chair. Approximately 10% were minorities, including one invited speaker and 4 of the short talk presenters.

The meeting opened with keynote addresses by Dr. William Sessa and Dr. David Clemmons. Both were new to this meeting but are leaders in other fields that have recently become closely linked to the matricellular protein field through studies of receptors and signal transduction. Dr. Sessa is a pioneer in vascular redox signaling, which is becoming increasingly linked to matricellular protein function, and Dr. Clemmons is a leading endocrinologist who discovered a novel role for the thrombospondin receptor CD47 in regulating insulin receptor signaling. The meeting had 9 formal sessions:

- 1) Structural Biology and Genetics of Matricellular Proteins
- 2) Matricellular Proteins in Cardiovascular Disease and Angiogenesis
- 3) Roles of matricellular proteins in injury and stress responses
- 4) Matricellular proteins in fibrosis and tissue remodelling
- 5) Matricellular proteins in immunity
- 6) Matricellular proteins in musculoskeletal development and disease
- 7) Metabolic regulation and signaling of matricellular proteins
- 8) Matricellular proteins in Carcinogenesis and Tumor Progression
- 9) Neurobiology and Developmental Biology of matricellular proteins

Each session had 4-5 invited speakers, presenting 25 min talks, and usually 2 short 10 min talks selected from the submitted abstracts. The short talks were also of high quality, and all talks resulted in vigorous discussions. The younger speakers were very appreciative of the opportunity to present their work. The invited speaker presentations consistently included a substantial amount of unpublished and preliminary data. Highlights from these sessions included a remarkable convergence in the signal transduction studies being conducted in labs studying different matricellular proteins. In immunological studies, members of the thrombospondin and CCN protein families were shown act through the same redox signaling pathways and to regulate the same cytokines in vivo. Several speakers addressed the evolving role of TGF $\beta$  in matricellular protein signaling, describing

new roles in renal fibrosis, immune cell regulation in the eye, and induction of periostin expression in wounds. Kim Midwood presented exciting new data regarding the role of tenascin-C as a damage-associated molecular pattern (DAMP) molecule and its role in regulating inflammatory cytokine production in tissue injury. New roles for TSP2 and SPARC in cardiac remodelling were presented that have implications for limiting inflammation and driving collagen crosslinking. Dr. Olga Stenina presented evidence for cell specific transcriptional regulation of thrombospondin-1 through microRNAs. Based on the presentations and discussions, several speakers investigating the roles of thrombospondins in peripheral vascular and cardiac pathophysiology became aware of unexpected organ-specific responses that will inspire new studies to uncover the molecular basis. Several talks presented new roles for matricellular proteins in cancer. Potent activity against ovarian cancer was presented for a new TSP1 mimetic developed by Abbott Laboratories.

The 34 posters were available for the entire meeting, and 2 formal sessions with beverages provided resulted in excellent attendance at the poster presentations with high traffic for each poster and active discussions between the poster presenters and senior investigators.

Attendees noted the outstanding quality of the platform presentations, high level of discussion, and high quality of the poster sessions. Most attendees were enthusiastic about the Snowmass meeting site and available outdoor activities. Funding to support the meeting was obtained from the following sources:

FASEB	10000
Center for Cancer Research, NCI, NIH	15000
Office of Rare Diseases, NIH	15000
NIDDK, NIH	2000
NIAMS, NIH	3000
NICHHD, NIH	3000
Pfizer	5000
Genzyme	5000
Genentech	2500
The Company of Biologists	4401.70
<b>TOTAL REVENUE</b>	<b>64901.70</b>

Although we lost several prior sponsors due to the weak economy, our overall fundraising was substantially increased over that achieved for the 2004 and 2007 meetings. Funds were used to partially defray travel and registration costs for the invited speakers and to partially defray travel costs for 3 foreign short talk speakers. Four travel awards of \$500 were given to poster presenters and 1 minority travel award to a short talk speaker. Funds were also used to pay for refreshments at the 2 poster sessions and for 3 evening coffee breaks. One main speaker and one short talk speaker obtained independent awards to fund their travel.

At the business meeting there was unanimous support that this meeting should continue to be held as a FASEB SRC. Attendees voted that the meeting should be held again in three years (2013). Dr. Joanne Murphy-Ullrich of the University of Alabama at Birmingham will be the Chair, and Dr. Amy Bradshaw of the Medical University of South Carolina was elected as Co-Chair. The attendees voted for July 21-26, 2013 as their first choice for scheduling the next meeting. July 28-August 2 and July 7-13 were the second and third choices, respectively. After discussion of possible sites, Saxtons River, VT was the first choice due to its proximity to a major airport and easy and economical travel of international attendees; Snowmass and Steamboat Springs, CO were the second and third choices, but total votes for Colorado sites exceeded those for Vermont.

Based on verbal feedback to the organizers, attendees were impressed by how well the meeting was managed by the FASEB staff. Attendees expressed much appreciation for the continued support of FASEB in the development of this growing field of investigation.

David Roberts, PhD

Joanne Murphy-Ullrich, PhD

Organizers of the 2010 “Thrombospondins and other Matricellular Proteins in Tissue Organization and Homeostasis” meeting