

## Preface

Taurine (2-ethanesulfonic acid) is a unique and mysterious compound. It is present in relatively high concentrations in a wide range of cells and tissues, but exists as a free amino acid in these cells without being utilized in protein synthesis. Taurine was first isolated more than 150 years ago from ox (*Taurus*) bile, where it was found in conjugation with bile acids through an amide linkage. Since that time, it has been reported to exist in particularly high concentrations in the cytoplasm of excitable tissues, such as certain parts of the brain, retina, skeletal muscle, myocardium and platelets. Some of its physiological functions have already been established, for example its role as an essential nutrient during development, an osmolyte and a neuromodulator. Recently, taurine has been advanced as a cytoprotective agent against certain pathological perturbations, but the mechanisms underlying its actions are still mostly a matter of speculation. Moreover, it is possible that other putative functions of taurine remain to be discovered.

The 16th International Taurine Meeting “Taurine for Future Healthcare” was held on September 2–5, 2007, in Shimoda, Shizuoka, Japan, with the site of the meeting being the Shimoda Central Hotel. Approximately 80 individuals from 11 nations, including newcomers as well as experts in taurine research, attended the scientific meeting. A total of 79 papers were presented as either oral or poster presentations. This meeting was multidisciplinary, with participants addressing multiple areas of the biological sciences. Typhoon “Fitow”, which means “beautiful fragrant flower” in a Micronesian language, hit the Shimoda region with full force at the end of the meeting, but we were able to finish the scientific sessions and enjoy an excursion prior to the onslaught. The morning after Fitow’s fury, the lingering scent of flowers reminded us that we are clearly at the dawn of a new era in taurine research.

The organizers of the taurine meeting would like to thank Taisho Pharmaceutical Co., Ltd., Tokyo, Japan, for their generous financial support and assistance in the organization of the meeting. We would also like to thank Dong-A Pharmaceutical Co, Korea, for their generous financial support. In addition, we would like to thank all participants of the meeting, especially the participants from the Osaka University and Taisho Pharmaceutical Company. The staff of the Shimoda Central Hotel was extremely helpful in making sure that all participants were comfortable and for ensuring the success of their planned events. Finally, we would like to express our

appreciation for the untiring effort before, during and after the scientific sessions of Dr. Abe, who helped ensure the success of the meeting.

We are pleased to provide you with *Taurine 7*, which contains the proceedings of the 16th International Taurine Meeting consisting, of 54 original papers. This volume focuses on all aspects of taurine research, including topics of interest to today's scientists as well as future clinical applications.

Part I. Cardiovascular and Renal Effects of Taurine.

Part II. Effect of Taurine on Brain and Retina.

Part III. Effect of Taurine on Skeletal Muscle.

Part IV. Gastroenteric and Hepatic Effects of Taurine.

Part V. Effect of Taurine on Bone.

Part VI. Effect of Taurine on Diabetes and Obesity.

Part VII. Potential Therapeutic Effects of Taurine.

Part VII. Taurine as an Antioxidant; Role in Immune System and Other Tissues.

Part IX. Regulation of the Taurine Transporter.

Future interest in taurine will undoubtedly be robust. However, considerable work remains to develop and uncover key new facts regarding taurine. This book should provide insight into new avenues of investigation and help propel the field into the new era of taurine research. Finally, the organizers wish to thank all of the participants for their stimulating discussions, probing questions and written contributions that made the Shimoda taurine meeting an unmitigated success.

We are deeply thankful to all scientists who have an interest in taurine, and are looking forward to seeing the taurine family at the next Taurine meeting in Florida.

Alone we can do so little; together we can do so much.

Helen Keller

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USA

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