**Current Topics**

The Target Factor of Heavy Metal Toxicity and Its Molecular Mechanism

Foreword

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“Forum 2017: Pharmaceutical Health Science-Environmental Toxicology,” sponsored by the Division of Pharmaceutical Health Sciences and Environmental Toxicology of the Pharmaceutical Society of Japan, was held September 1–2, 2017, in Sendai, Japan.

At Forum 2017, “Forum I: The Target Factor of Heavy Metal Toxicity and Its Molecular Mechanism” was planned as a Women’s Researcher Forum: four women researchers who are active in the field of metal toxicology gave talks, and two women researchers chaired the session. As this forum was meaningful, and insightful, I proposed this Current Topics submission, entitled “The Target Factor of Heavy Metal Toxicity and Its Molecular Mechanism,” in order to publish their research achievements. Among the women researchers who participated in this Women’s Researcher Forum, four accepted my invitation to submit their manuscripts for publication in Current Topics in the Biological and Pharmaceutical Bulletin.

Metals/metalloids are known to cause serious damage to various tissues, due to overexposure to humans. Toxicological studies of metals/metalloids have been actively conducted by many research groups, focusing on poisoning symptoms, risk assessment and toxic mechanisms. Although the toxic molecular mechanism of metals/metalloids has not been clarified, in recent years, toxic target factors for each metal/metalloid have been found. In particular, these featured authors are conducting excellent research on the toxic mechanisms of metals/metalloids. In this edition of Current Topics, the latest research results regarding the toxic mechanisms of zinc, manganese, cadmium and arsenic are summarized. Dr. Tamano and Dr. Takeda review the age-dependent modification of intracellular Zn\(^{2+}\)-buffering in the hippocampus, as well as its impact. Dr. Fujishiro and Dr. Himeno introduce the role of ZIP8, a cadmium and manganese transporter, and its relation to human diseases. Dr. Tokumoto and her colleagues summarize the relationship between transcription factors and target genes responsible for the initiation of Cd renal toxicity. And finally, Dr. Kita and her colleagues present their research results on the role of BubR1 in thio-dimethylarsinic acid-induced mitotic cell death.

I hope that these four women researchers, who have written a review or regular article for this Current Topics, will continue to be active in the study of metals/metalloids toxicology. In addition, we look forward to more women researchers becoming increasingly active in the field of Pharmaceutical Health Sciences.

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