Preface

Genomic imprinting, a parent-of-origin-specific epigenetic modification of the genome, is observed in placental mammals and some plants (angiosperms). Since its discovery in the early 1980s, this intriguing phenomenon has been continuing to attract the attention of biologists and medical scientists, and its studies have blossomed into an exciting new research area. Imprinting is relevant to a variety of biological events, such as embryogenesis, growth and behavior, and its disruption can lead to congenital malformation syndromes and cancers. Furthermore, imprinting has been serving as an excellent model system to study epigenetic mechanisms of gene regulation and helping us to understand how gene clusters and genome domains are regulated.

The aim of this special issue is to provide an overview of the current knowledge of genomic imprinting. We invited outstanding researchers of the field to contribute with manuscripts. Many of these authors were participants of the genomic imprinting workshops held in Montpellier (September, 2004) and in Oxford (April, 2005). Thus, this issue covers the most up-to-date topics discussed in these highly esteemed workshops. We are especially grateful to the three pioneers of imprinting research, Drs. Bruce M. Cattanach, Davor Solter and M. Azim Surani, for their kind contributions. In addition to the excellent review articles, the current issue also contains original research articles representing the forefront of imprinting research.

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Hiroyuki Sasaki, Mishima, October 2005

Fumitoshi Ishino, Tokyo, October 2005