

Preface

Nuclear receptor coregulators have experienced an explosive early development over their founding decade. The number of coactivators and corepressors has grown to over 300. The molecular biology of coactivators has informed us of a cadre of diverse and interesting mechanisms of transcriptional action, including chromatin modification and remodeling; initiation of transcription; elongation; alternative RNA splicing and finally, protein degradation. Over the past five years, researchers have demonstrated that coactivators have expanded their pleiotropic actions in multiple cell compartments where they shepherd functions of the numerous gene products required to regulate large physiologic processes such as growth, metabolism, and inflammation. The discovery of coactivators has also resulted in the production of over 90 mouse knockout models for the study of heritable diseases. Of the 300 currently discovered coregulators, about 165 already have been demonstrated to result in human pathologies and heritable dysfunction. They have been demonstrated to be causal in numerous instances of embryonic lethality; growth retardation; maturation; mental retardation; metabolic and endocrine disorders; inflammatory disorders; malignancies; reproductive; and cardiovascular abnormalities. The editors wish to thank the Nuclear Receptor Signaling Atlas Consortium for their continued support in the area of NR coregulator research. The editors also wish to point out that a great deal of primary and unpublished data in this field is summarized on the NURSA web site (www.NURSA.org).

Since these coregulator “master genes” are poised to pay big future dividends to the field of medicine, we felt it timely to compile the first book, written by the top experts in the field and dedicated to the physiologic and pathologic promises of coregulator research. The book will contribute to the foundation of Coregulator Biology as an emerging discipline in medical sciences.

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