

**MOLECULAR BIOLOGY
INTELLIGENCE
UNIT**

Shh and Gli Signalling and Development

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PREFACE

The hedgehog signalling pathway is highly conserved and seen in organisms ranging from *Drosophila* to humans. This pathway is critical in determining cell fate decisions in a variety of different cell types. There are several vertebrate analogues of the *Drosophila* hedgehog protein of which the most widely studied is Sonic hedgehog (Shh). Shh signalling classically involves the Gli family of zinc-finger transcription factors. The Shh signalling pathway is well characterised in the development of a number of vertebrate organ systems. It could indeed be argued that the Shh and Gli signalling may well be involved at some stage in the development of all the major organ systems in vertebrates. This volume represents a concerted drive to bring together 'state of the art' reviews by leading experts in the field of Shh and Gli signalling in development from all over the world. The chapters span vertebrate organisms from zebrafish to humans and cover development of the multiple organ systems in which the Shh signalling pathway is crucial for normal development. There are chapters on the development of the central nervous system, skeletal structures, visceral organs, prostate, lung, immune system and the structures of the human face. The authors themselves span three major continents and multiple nationalities which admirably illustrates the worldwide nature of the science. The international nature of the project has been very rewarding and the quality, depth and range of the reviews included speaks for itself. It is hoped that the reader will appreciate the wide variety of scientific approaches that have contributed to our current knowledge base of the importance of Shh and Gli signalling in vertebrate development and will at the same time realise that, as with all good science, there are still more questions than answers.

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