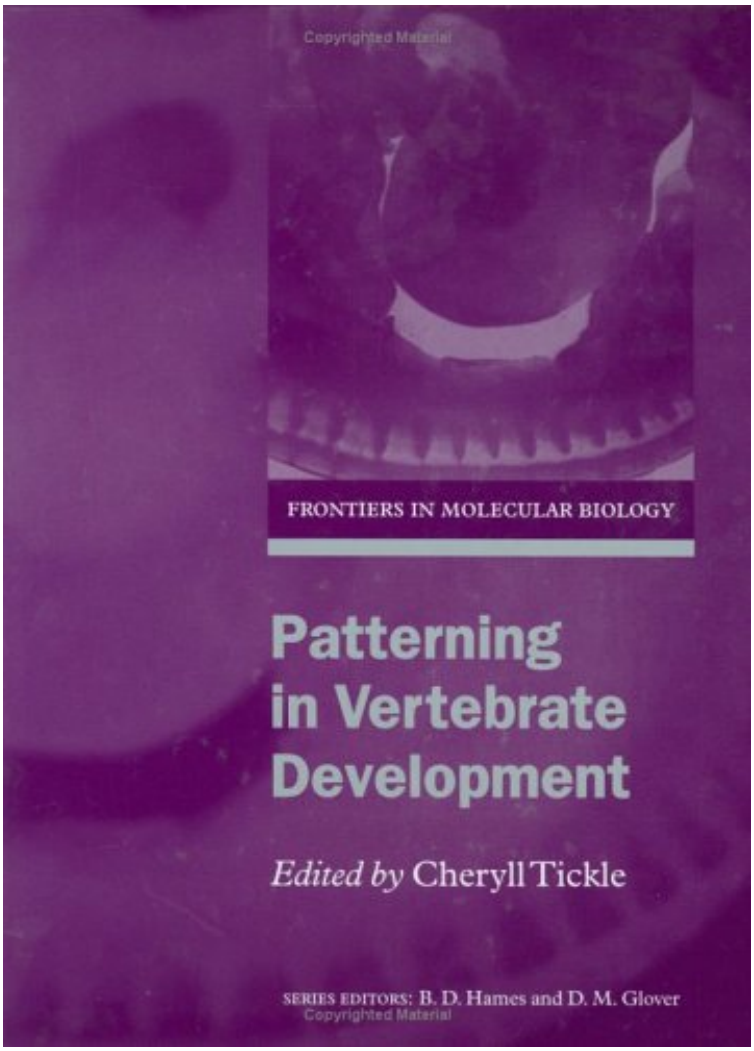
Patterning in Vertebrate Development (Frontiers in Molecular Biology)

From Oxford University Press
*ebooks | Download PDF | *ePub | DOC | audiobook*



#7956074 in Books 2003-03-20Original language:EnglishPDF # 1 7.70 x .90 x 9.80l, #File Name: 0199638705268 pages | File size: 17.Mb

From Oxford University Press : Patterning in Vertebrate Development (Frontiers in Molecular Biology) before purchasing it in order to gage whether or not it would be worth my time, and all praised Patterning in Vertebrate Development (Frontiers in Molecular Biology):

One of the most fascinating problems in biology is how a single cell, the fertilised egg, gives rise to a new individual. The fertilised egg divides many times to form an embryo. This volume in the Frontiers in Molecular Biology series

discusses the methods by which cells in distinct regions of an embryo become different, a process known as patterning. Patterning is fundamental to establishing the spatial organisation of the developing embryo. It ensures that all the parts of the body are generated and that they form in exactly the right places. The ultimate in patterning is the formation of precise arrangements of specialised cells and tissues within each organ. Understanding the process of patterning during the embryonic development of vertebrates is a particular challenge for developmental biologists because vertebrates have an intricate and complex anatomy and histology. The first two chapters of Patterning in Vertebrate Development are introductory, explaining to the reader the general principles of vertebrate patterning and early embryology. The subsequent chapters address patterning in both nervous system and specific parts of the body. Each chapter provides a detailed review of current research in a specific area of interest. These include topics such as neural specification, antero-posterior patterning of the neural tube, and molecular basis of vertebrate limb development. Throughout the volume, examples are drawn from a number of species, and particular emphasis is placed on recent discoveries about the molecular basis of patterning in vertebrates. The book concludes with a chapter which revisits many of the regions of the embryo previously discussed from an evolutionary perspective.

a very enjoyable read ... The book has been carefully edited and all chapters link to each other and make appropriate cross-references, which is very helpful to a newcomer to this field. BioEssays This book gives a succinct overview of vertebrate patterning and concentrates on areas in which we begin to gain an understanding of the molecular mechanisms involved. The account of some pressing questions currently addressed makes it very up to date and therefore the book should be on the reading list of any student committed to this exciting and rapidly progressing research area. BioEssays This book is an interesting and very informative read, and sets out state-of-the-art levels of understanding in the various fields ... For young scientists entering a career in developmental biology, this book should be a focus of interest as well as a spur to dive into a field with many exciting opportunities and challenges for their research. BSDB NewsletterAbout the AuthorProfessor Cheryll Tickle is a fellow of the Royal Society (FRS FRSE) and a member of the Editorial Board of Differentiation and the Journal of Anatomy. Some of the other contributing authors are senior figures in the field, others are younger scientists