

1. Record Nr.	UNINA9910261134203321
Autore	Andrea E. Munsterberg
Titolo	Signalling Pathways in Embryonic Development
Pubbl/distr/stampa	Frontiers Media SA, 2017
Descrizione fisica	1 online resource (177 p.)
Collana	Frontiers Research Topics
Soggetti	Biology, life sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	<p>The formation of a complex multicellular organism from a single cell is one of the most amazing processes of biology. Embryonic development is characterised by the careful regulation of cellular behaviours such that cells proliferate, migrate, differentiate and form tissues at the correct place and time. These processes are genetically controlled and depend both on the history of cells, their lineage, and on the activities of signalling pathways, which coordinate the cell interactions leading to organogenesis. The aim of the Frontiers research topic "Signalling pathways in embryonic development" has been to provide a forum for experts in cell and developmental biology to share recent advances in the field of signalling during embryonic development. Sixteen articles in a variety of formats are united in this Topic, offering a valuable collection for researchers looking for an update in the knowledge of signalling pathways operating during embryogenesis. The works, focused mainly on vertebrates, explore different aspects of this theme from cell communication to organ formation and have implications for areas as distant as evolution or pathology. Understanding developmental signalling pathways is important for several reasons. It gives us information about basic mechanisms of cell function and interactions needed for morphogenesis and organogenesis. It uncovers the basis of congenital malformations, since errors at any step of cell signalling during development are a major cause of defects. This fundamental insight gives us clues to understand the mechanisms</p>

operating in evolution that explain diversity in form and function. And finally, it allows the identification of possible causes of disease in the adult organism (such as cancer or degenerative diseases) pinpointing possible targets for therapeutic approaches.

---