

GENETICS AND GENOMICS

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Summary

The book contains the substance of the lectures and partly of the practices of the subject of 'Genetics and Genomics' held in Semmelweis University for medical, pharmacological and dental students. The book does not contain basic genetics and molecular biology, but rather topics from human genetics mainly from medical point of views. Some of the 15 chapters deal with medical genetics, but the chapters also introduce to the basic knowledge of cell division, cytogenetics, epigenetics, developmental genetics, stem cell biology, oncogenetics, immunogenetics, population genetics, evolution genetics, nutrigenetics, and to a relative new subject, the human genomics and its applications for the study of the genomic background of complex diseases, pharmacogenomics and for the investigation of the genome environmental interactions. As genomics belongs to systems biology, a chapter introduces to basic terms of systems biology, and concentrating on diseases, some examples of the application and utilization of this scientific field are also be shown. The modern human genetics can also be associated with several ethical, social and legal issues. The last chapter of this book deals with these issues. At the end of each chapter there are questions, with which the readers can ascertain whether they understood and/or learned the chapter. Because it is an e-book, some terms and definitions has a hyperlink for more detailed explanations in the World Wide Web. Besides university students, the book is also recommended to all those who are interested in modern medical genetics and genomics and want to be up-to date in these subjects.



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