Epigenetics in Health and Disease (FT Press Science)

Igor Kovalchuk, Olga Kovalchuk
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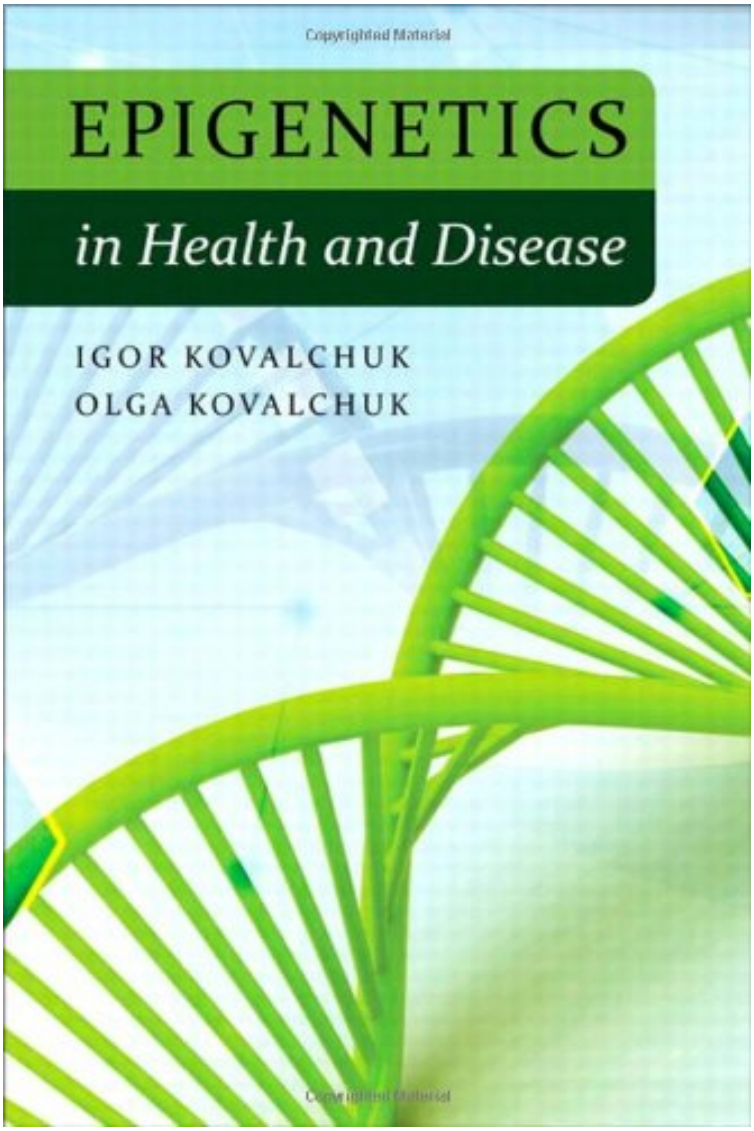

#585994 in Books FT Press 2012-06-03Original language:EnglishPDF # 1 9.31 x 1.52 x 6.38l, 2.03 #File Name: 013259708X608 pages | File size: 33.Mb

Igor Kovalchuk, Olga Kovalchuk : Epigenetics in Health and Disease (FT Press Science) before purchasing it in order to gage whether or not it would be worth my time, and all praised Epigenetics in Health and Disease (FT Press Science):

0 of 0 people found the following review helpful. any other introduction to epigenetics is betterBy namju chaKovalchuk and Kovalchuk was part of required reading in my graduate course on epigenetics and gene expression. This book will easily lead the hit list of worst scientific books ever written. From the back cover: ...first

comprehensive, authoritative, and easy-to-understand introduction to modern epigenetics... all the attributes this book is not! It's most positively not comprehensive, and absolutely not easy to understand.Here are a few features on which my judgment is based:- The authors deliver no context. Facts are followed by facts, and followed by more facts. This does not lead to understanding nor does it initiate critical thinking about the matter. But it's good for putting you to sleep.- This is like a review of a review minus the explanations and a bigger-picture view. This style of writing would have not even passed for a term paper at my university, let alone a thesis, dissertation or a published book.- Abbreviations can occur out of the blue for the first time anywhere in the text, without any explanation. Six pages later you see them spelled out in bold letters. That's just normal. But by that time you already looked them up on the web.- Some abbreviations are used for two different meanings (check out ESC).- The text (and, admittedly, the subject matter) is laden with synonyms and acronyms - a list of abbreviations with a short explanation at the beginning would be nice.- Terrible-looking, uninformative, uninviting, 1990ies-style graphics with illegible fonts (because of its small size) and cryptic captions.- I don't mean to sound like Woody Allen's joke about bad restaurants at the beginning of Annie Hall, but yes, there aren't enough graphics given the enormous complexity of the material.- No cross references to other pages or chapters, indicating that the authors themselves have not thought through the design and layout of their own book and how it might help anyone to study the material.Overall, reading it was extremely useless and a spectacular waste of time. I'm sure the time would have been better invested by reading many of the often referenced reviews, or just picking any other book on this highly relevant and super interesting topic.2 of 2 people found the following review helpful. Great Introduction and Overview of EpigeneticsBy Dr. Terrence McGartyEpigenetics is an ever growing field of research demonstrating that although genes themselves still follow the Watson-Crick paradigm, that there are many complex factors which can distort their actions. Namely things are not necessarily as straightforward as they look. The book by the Kovalchuks is an excellent introduction to this field. It benefits from the fact that it is written by a single set of authors and thus does not suffer from the repetition, changes in style, and levels of coverage many of the multi-author texts have.The authors provide a review of the chromosome and its structure and the importance of the histones in the overall expression of genes.They then provide an excellent discussion of methylation, one of the key elements in epigenetic control. Methylation of the C element in DNA has been found to provide a broad set of changes in gene expression. The authors introduce the reader to these in a straightforward and understandable manner. As such this can be used as a good first introduction to this area.The author then goes into non-coding RNAs including the miRNA and lncRNAs. The authors provide a broad discussion of these areas across many kingdoms, plants, animals, fungi etc. This coverage is well done and allows the reader to see how these effects impact many areas. All too often the focus may be upon the human, but seeing this in other kingdoms as well is extremely informative.The authors conclude with several chapters on the impact of these epigenetic factors; methylation and ncRNAs. The classic set; cancer, behavioral, and environmental are discussed.The chapter on cancer and epigenetics is especially worthwhile. It covers a wide range but at a readily accessible level.On the positive side the authors have kept the level of presentation understandable and consistent. The level and depth is adequate for a good initial introduction to the literature. The book is not an in depth reference text but then again there is none that I am aware of. In addition the knowledge in this field is changing on an almost daily basis.I would strongly recommend this book to anyone wanting to take the first steps into this exciting area.There are some additions that I would like to have seen:1. In the cancer area, the Myelodysplastic Syndrome, MDS, is an interesting hypermethylation pre-cancer often resulting in AML. It is treated with drugs targeting this hypermethylation. I believe that this would be an excellent case study for many cancers. In addition there is the cause or effect element regarding the methylation states of many cancers. This is still a work in progress.2. Flower colors and patterning is an interesting area for the use of epigenetic analysis. I would like to see some discussion here. For example is there a relationship to the X chromosome issue as in calico cats or is this a pathway control issue often found in other patterning areas.3. Figures can be dramatically improved. The black and white ones are barely readable and the colored versions are in the rear of the text and are not of great quality. The figure lend a great deal.4. Agouti mouse issues regarding a way to measure methylation effects may be a useful tool and should be considered for inclusion. Just a thoughtOverall the authors have done a superb job and the book is worth being on the shelf of all involved in this area.0 of 0 people found the following review helpful. Good TextbookBy Suzanne JacobsAlthough somewhat technical, this book is excellent as a textbook for Epigenetics. It leads the reader to pursue further information as the field expands in use and technique. Recommended.

This is the first comprehensive, authoritative, and easy-to-understand introduction to modern epigenetics. Authored by two active researchers in the field, it introduces key concepts one step at a time, enabling students at all levels to benefit from it. The authors begin by presenting a historical overview that places epigenetics in context, and makes it clear that the field is not (as some presume) completely new. Next, they introduce and explain key epigenetic mechanisms, and discuss the roles these mechanisms may play in inheritance, organism development, health and disease, behavior, evolution, ecology, and the interaction of individual organisms with their environments. Coverage includes: non-coding RNAs in each kingdom; allelic interactions; CRYSPR; gene silencing; epigenetics of germline and epigenetic memory; epigenetic regulation of genome stability and plant stress response; and much more. The

authors conclude by offering significant new insights into how knowledge of epigenetics and epigenomics may promote the development of technologies and solutions in areas ranging from behavioral neuroscience to cancer treatment, toxicology to the development of hardier crops.

From the Back CoverAn Authoritative and Accessible Introduction to Epigenetics Emerging discoveries about the deep linkages between genetics and environment Understanding reversible mechanisms of heredity that do not modify DNA sequence From cancer to psychiatry: what bioscientists are learning about epigenetics and disease This is the first comprehensive, authoritative, and easy-to-understand introduction to modern epigenetics. Authored by Igor Kovalchuk and Olga Kovalchuk, two active researchers in the field, this book introduces key concepts one step at a time, enabling students at all levels to benefit. After reviewing the fields history and context, the authors introduce and explain each key epigenetic mechanism. Next, they extensively discuss the roles these mechanisms may play in inheritance, development, health and disease, behavior, evolution, ecology, and the interactions of individual organisms with their environments. The authors conclude by offering significant new insights into how knowledge of epigenetics and epigenomics may promote the development of technologies and solutions in areas ranging from behavioral neuroscience to cancer treatment, and toxicology to the development of hardier crops. About the AuthorIgor Kovalchuk, Ph.D., MD, is Professor and Board of Governors Research Chair at the Department of Biological Sciences, University of Lethbridge (Alberta, Canada). He edits Frontiers in Plant Microbe Interaction, Frontiers in Epigenomics, and other journals. As principal investigator in the universitys Plant Biotechnology laboratory, he studies genetic and epigenetic regulation of plant response to stress, including the transgenerational effects of stress and microevolution of plant stress tolerance/resistance. Olga Kovalchuk, Ph.D., MD is Professor and Board of Governors Research Chair and CIHR Chair in Gender and Health at the University of Lethbridge and a member of the editorial boards of Mutation Research--Fundamental and Molecular Mechanisms of Mutagenesis and Environmental and Molecular Mutagenesis. She researches the role of epigenetic dysregulation in carcinogenesis; epigenetic regulation of cancer treatment responses; radiation epigenetics and role of epigenetic changes in genome stability and carcinogenesis; radiation-induced oncogenic signaling; and radiation-induced DNA damage, repair, and recombination.