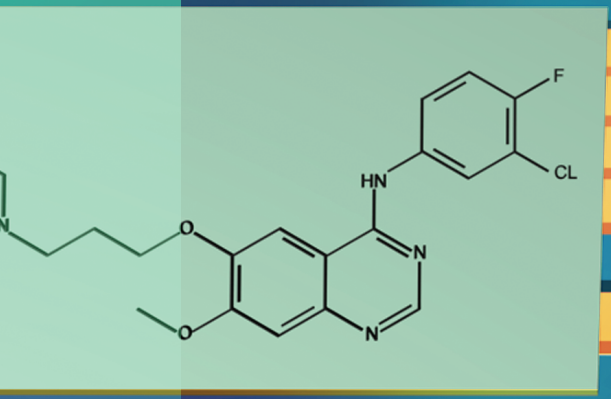
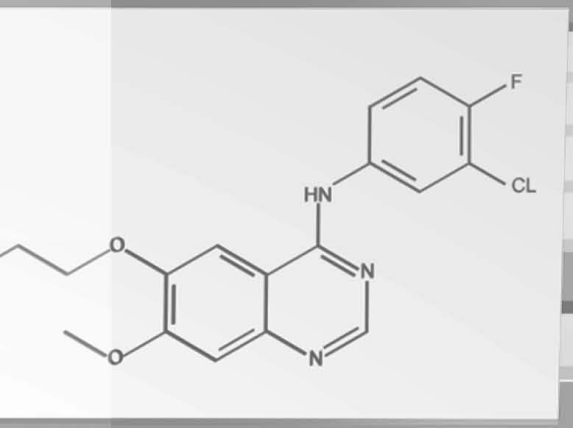


Cancer Genetics and Genomics for Personalized Medicine

edited by **Il-Jin Kim**



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Preface

On a busy morning one day, I got an email from a publisher asking for a new publication on precision and personalized medicine for cancer treatment and research. By that time, I had led several relevant projects, including the development of new next-generation sequencing (NGS) technologies and corresponding bioinformatics programs. There were surely successful and commercial products developed from these projects (which are now available in the genetic analysis market in the world), yet I was not sure if I would be able to write or edit a textbook on a big topic like personalized medicine. Previously, I only had had a chance to join two scientific books as a single-chapter contributor, but had never written or edited a whole book by myself. It seemed quite overwhelming to me at the time. However, as several months passed since I received the first email about this opportunity, I began to open my mind and be more positive towards the idea. In fact, I had been working on personalized medicine, cancer genetics, companion diagnostics, and cancer biomarker discovery for more than 15 years by then. Thus, I thought it would be good to organize and integrate all the knowledge that I have along with that which top-level scientists, researchers, and medical doctors have been gathering regarding personalized medicine in cancer. Consequently, I gladly decided to embark on this project even though I was very busy developing multiple new sequencing and genetic technologies. First, I tried to select the topics that could be the most beneficial for the people engaged in training such as graduate students, medical residents, and other high-level professionals who are relatively unfamiliar with personalized medicine. The next thing I did was the most time-consuming and challenging work—finding the most suitable people who can write on the topic with up-to-date knowledge and information in a plain

language. As a matter of fact, it took me almost an entire year to find all the world-class authors for each chapter. I really appreciate all the contributors of each chapter in this book. Without their contribution and efforts, the book could not have been published. I thank them for their patience and support because it took much longer than expected to finally get this book published. I also appreciate my good friend and colleague Pedro Mendez, who designed the cover for this book. I must say that he is the most artistic person I have ever met in my group. I also thank James Kim for his editorial assistance and sincere friendship. I thank the whole team at the UCSF Thoracic Oncology Program and CureSeq for their support and inspiration on precision medicine and companion diagnostics in developing new weapons (the world's fastest mutation screening assay) fighting cancer. Finally, I thank Stanford Chong greatly for suggesting and giving me a chance to publish this book, and Sarabjeet Garcha for all the help and communication.

I would like to offer my wholehearted gratitude to my family who supported me not only in the writing of this book but also in all my work in general. My parents, Ho-Young Kim and Yong-Soon Bang, in Korea taught me well to maintain a strong passion for my life's goals, and also to give endless love to my family. My wife, Hio Chung Kang, and my two sons, Thomas Kunhee and Benjamin Kunjune Kim, are truly the very source of all my sweat, effort, motivation, and energy behind the achievements.

We are already in the era of personalized and precision medicine for curing cancer. Technologies and methods will develop continuously and evolve rapidly. However, grasping the core concept and principles will constantly remain crucial until we finally cure cancer. I really hope this book will be helpful and informative to current and future heroes and heroines in their fight against, and the eventual conquest over, cancer.

Il-Jin Kim
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