Hepatitis B: The Hunt for a Killer Virus

Baruch S. Blumberg
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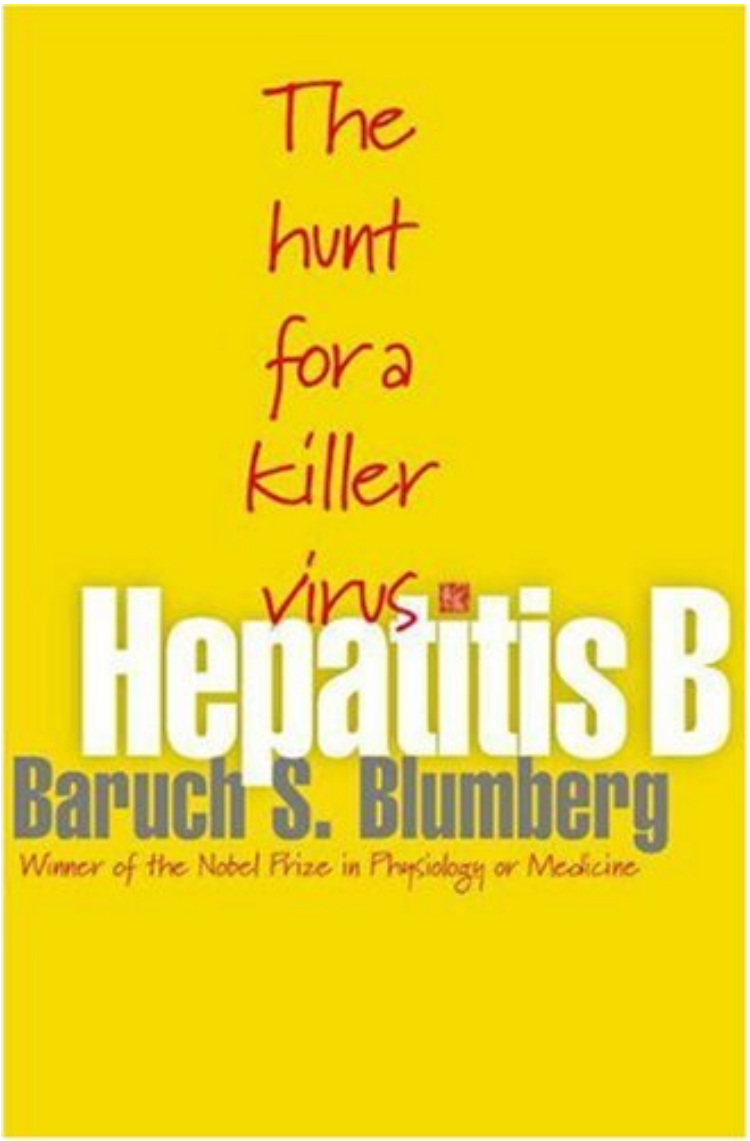

#3029324 in Books Princeton University Press 2002-05-01Ingredients: Example IngredientsOriginal language:EnglishPDF # 1 .85 x 6.58 x 9.60l, 1.19 #File Name: 069100692X256 pages | File size: 68.Mb

Baruch S. Blumberg : Hepatitis B: The Hunt for a Killer Virus before purchasing it in order to gage whether or not it would be worth my time, and all praised Hepatitis B: The Hunt for a Killer Virus:

0 of 1 people found the following review helpful. great book-how hepatitis b virus discoveredBy smartwayVery interesting, exciting journey leads to discovery of hepatitis B virus, its test and vaccine.Must read for any researcher

About 375 million people are infected with the hepatitis B virus. It has killed more people than AIDS and also causes

millions of cases of liver cancer. The discovery of this deadly virus and the vaccine against it--a vaccine that is sharply decreasing the infection rate worldwide and is probably the first effective cancer vaccine--was one of the great triumphs of twentieth-century medicine. And it almost didn't happen. With wit and insight, this scientific memoir and story of discovery describes how Baruch Blumberg and a team of researchers found a virus they were not looking for and created a vaccine for a disease they previously knew little about--work that took the author around the world and won him the Nobel Prize. Blumberg and his collaborators were investigating relationships between gene distribution and disease susceptibility, research that was yielding interesting data but no real breakthroughs. Many viewed their work as more field trip than science. But, through decades of hard work and investigative twists and turns, their pursuit led to the hepatitis B antigen, the elusive virus itself, and, ultimately, the vaccine. As he takes the reader through the detective work that culminated in his incredible discovery, the author recounts with immediacy exciting moments in the lab and in the field--from a hair-raising flight to Africa to an unpleasant encounter with Alaskan sled dogs. The hepatitis B story is more than a fascinating chronicle of a major discovery. What Blumberg followed to the virus was a trail of remarkable "accidents" that happen when scientists seek answers to interesting questions. Those events, combined with the investigator's determined persistence, resulted in studies that generated a pharmaceutical industry, have far-flung public-health applications, and saved millions of lives.

From The New England Journal of MedicineDespite its title, this book is not the story of a deliberate hunt for a killer virus. It is the story of the almost accidental opening of new vistas in virology that led to a Nobel prize. It is the story of the boy from Brooklyn who became the persistent, gifted man who wandered into what he calls deep seas and blue waters -- but wandered with an open and perceptive mind. If poetry is a free-ranging, idealized representation of an idea, then this is poetry. In his book, Blumberg sets out some clues and describes some personal traits that could inspire others to go on similar wanderings. Blumberg was first interested in rheumatology, then physical biochemistry, and then inherited variations in susceptibility to disease. During the 1950s, his tool to study differences among human serum proteins was the basic immunologic agar-gel-diffusion technique. He joined the National Institutes of Health in 1957 and further tracked what he called the Ag system through Europe, the Pacific Islands, and South America. Then an unusual precipitin band present in serum from Australian aborigines was noted by his coworker Harvey Alter. The antibody to the precipitin was present in the serum of persons with poor hygiene and patients who had undergone multiple transfusions, some of whom had leukemia. The first clinical publication in 1965 named the band the Australia antigen and described it as a new marker for leukemia. Blumberg then moved to Philadelphia, marking the beginning of the hepatitis story. At the Fox Chase Cancer Center, where Blumberg remained for the next 35 years, a patient with a negative test for the antigen became positive after a mild case of hepatitis. The Australia antigen was soon recognized as a marker for hepatitis, and the hunt for what we now know as hepatitis B was nearly over. Blumberg's persistent work had revealed a new approach to understanding, preventing, and even treating viral diseases. Incidentally, it resulted in fantastic improvements in the safety of blood transfusion. Always remembering his early interest in genetics, Blumberg hypothesized that the Australia antigen traveled in populations in such a way that its controlling genes determined susceptibility to persistent infection with the hepatitis B virus. In later chapters, he expands on that theory in some musings on the human immunodeficiency virus and molecular biology that deserve to be mined by other open and observant minds. There is a chapter on the patenting of a hepatitis vaccine. Unlike the first U.S. patents, which required that working models be submitted for inspection, Blumberg's was a patent on an idea only. It was later proved by others to be an idea that worked. This book shows that it is not the orderly, directed research program that leads to the Nobel, but rather the workings of the orderly, observant mind. The neophyte can take heart from Blumberg's remarks about the system of support in the United States for young people who have ideas to pursue and who can defend their results in peer review; in this country, such young scientists are often encouraged to publish. In contrast, I can remember my surprise at seeing my first experimental work appear as a major part of a published paper with no mention of my contributions. The response of Herr Professor when he was queried was that no value would be accorded to work done by someone under the age of 25. Blumberg's book is easy to read, although it has evidently been cobbled together from writings done at different times. The author is generous in acknowledging the influence of others on his thinking and his work, but he uses the pronoun "we" to refer at times to himself alone and at other times to include his coworkers; the discriminating reader must sort out the author's meaning, which should have been done by an editor. As the author says, this book is less a scientific treatise than a human document. The scientist-reader will not find a report with the orderly format of abstract, introduction, methods, results, and discussion. The book is closer to poetry in terms of its free range, and poetry should be read regularly for relaxation, for inspiration, and for ideas. Paul J. Schmidt, M.D.From BooklistBlumberg's career has been a pursuit of inherited variation and susceptibility to disease. His research has taken him all over the world and, because sharing hypotheses and data is vital to it, has led him to work with many diverse individuals and groups. His discovery of the Hepatitis B virus (HBV) resulted from epidemiological studies in different cultures. He tells the HBV story in a lively manner, with touches of humor, imparting that among the many spin-offs from that research has been

the "sensational" control of a type of liver cancer, and raising such questions as whether HBV affects the sex ratio of births. Obviously, further research on viral causes of cancer may prove to be of considerable value. The Nobel Prize-winning author has written for both scientists and nonscientists, despite which the latter occasionally may get bogged down in terminology. The reader who sticks with it, however, is rewarded with insights into scientific thinking, for the book beautifully illustrates the forward, sideways, and backward steps involved in the scientific method. William BeattyCopyright American Library Association. All rights reserved "Nothing seems quite so dramatic as the unexpected eureka moment, when, escoreted by the gods of good fortune, scientists somehow stumble upon answers to questions they never knew to ask. This is the story that Baruch S. Blumberg tells in Hepatitis B: The Hunt for a Killer Virus. Blumberg, a U.S. geneticist and biochemist, won the Nobel Prize in 1976 after finding a virus he was never looking for. . . . Blumberg does a fine job at connecting this medical advance to the lives of real people."--Carolyn Abraham, Toronto Globe and Mail "The discovery by Baruch Blumberg of the Australia antigen, a specific viral marker of the hepatitis B virus, was one of the most important advances in medical knowledge during the past 50 years and had huge implications for preventive medicine. This inspiring book is an intensely personal and interesting account of the work of Blumberg and his close associates who . . . devised the first generation vaccine for [the] infection. . . . [This book] is essential reading for all aspiring scientists. . . . And it should be read by the thousands of people who work on the control and eradication of the hepatitis B virus. . . . It is a gem."--Arie J. Zuckerman, Nature "Blumberg tells the [Hepatitis B] story in a lively manner, with touches of humor. The Nobel-Prize winning author has written for both scientists and nonscientists [and he] beautifully illustrates the forward, sideways, and backward steps involved in the scientific method."--William Beatty, Booklist "Blumberg takes the reader on a fascinating journey through the convoluted circumstances that led to the discovery of hepatitis B and the vaccine against it. Blumberg's modest style and vast knowledge combine to make this a thoroughly intriguing look at the scientific research process."--Library Journal "This book shows that it is not the orderly, directed research program that leads to the Nobel, but rather the workings of the orderly, observant mind. . . . If poetry is a free-ranging , idealized representation of an idea, than this is poetry . . . and poetry should be read regularly for relaxation, for inspiration, and for ideas."--Paul J. Schmidt, New England Journal of Medicine "Readers will find much to enjoy and absorb in Blumberg's fascinating personal story."--Robin A. Weiss, Science "Blumberg chronicles with uncanny humor his research team's accidental discovery of HBV, their daily laboratory routines and methodology of research experimentation of HBV, and the eventual development of medicine's first viable cancer vaccine."--Choice "This book is highly informative and entertaining. It offers a clear account of how basic scientific research is conducted and of the excitement of scientific discovery."--Science Books and Films "The hepatitis B story is more than a fascinating chronicle of a major discovery. . . . The discovery of this deadly virus and the vaccine against it--a vaccine sharply decreasing the infection rate worldwide and probably the first effective cancer vaccine--was one of the great triumphs of 20th century medicine."--Biology Digest "In this unapologetically personal memoir, the author tells the story of hepatitis B from his own perspective. . . . [T]he book becomes a distinctive part of hepatitis B history, and it will be an invaluable resource for medical historians in the future."--Bud C. Tennant, Nature Medicine "Blumberg comes across as self-deprecating and erudite in his book, which is filled with allusions as varied as Robert Frost, Dante and Michael Crichton. . . . As his book shows, Blumberg is not merely brilliant. He is wise."--Marie McCullough, The Philadelphia Inquirer