

Douglas Richman

Interview conducted by

Mark Jones, PhD

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SAN DIEGO TECHNOLOGY ARCHIVE



Douglas Richman



Dr. Douglas D. Richman, MD is Professor of Pathology and Medicine at the University of California, San Diego School of Medicine and Chief of the Virology Section, Professor and Director of the Research Center for AIDS and HIV Infection at the San Diego VA Medical Center. Dr. Richman has investigated HIV disease and pathogenesis for the past 20 years and was the first to identify HIV drug resistance. He is also a virologist and practicing physician with the Veterans Affairs San Diego Healthcare System. He has made major clinical and laboratory contributions to the field of HIV/AIDS, which represent a model of translational medical research. Dr. Richman helped design and conduct the clinical evaluation of new drugs and treatment strategies, including the first trial of combination antiretroviral therapy and the initial study documenting the value of the strategy of rendering HIV RNA undetectable. Two areas of his laboratory investigations represent landmark studies in HIV research. His laboratory first identified HIV drug resistance. He serves as a Consultant to the NIH, the Veterans Administration, the World Health Organization and the State of California. Dr. Richman has been Chairman and Member of Clinical and Scientific Advisory Board of Anadys Pharmaceuticals Inc. since December 2, 2004. He also serves as a Member of the HIV Scientific Advisory Board of Idenix Pharmaceuticals Inc. He serves as Member of Scientific Advisory Board at Biota Pharmaceuticals, Inc. He serves as Member of Clinical Advisory Board at Tobira Therapeutics, Inc., and Koronis Pharmaceuticals, Inc. Dr. Richman serves as Member of Clinical & Science Advisory Board of Presidio Pharmaceuticals, Inc. Dr. Richman serves as Member of the Advisory Board of Body Health Resources Corporation. He serves as Member of the Scientific Advisory Board for Multimeric Biotherapeutics, Inc., Chimerix Inc. and Monogram Biosciences Inc. He served as Member of the Scientific Advisory Board of GenPhar, Inc. He served as Member of Clinical Advisory Board of Achillion Pharmaceuticals, Inc. He was recently named to the endowed Florence Seeley Riford Chair for AIDS Research at UCSD. He serves on the Editorial Boards of numerous scientific journals, including the Journal of Virology and Antimicrobial Agents and Chemotherapy. He is a Member of the NIH AIDS Vaccine Research Committee. Dr. Richman has published more than 480 original research articles, reviews, and book chapters, and he is the senior editor of the major textbook of medical virology, Clinical Virology. He was honored with an NIH Merit

Award and the Howard M. Temin Award for Clinical Science and Clinical Excellence in the Fight Against HIV/AIDS. Dr. Richman is a Fellow of the American Association for the Advancement of Science, the American Association of Physicians and the Infectious Disease Society of America. Dr. Richman trained in infectious diseases and medical virology at Stanford, the National Institutes of Health (NIH) and Harvard. He earned his B.A. degree from Dartmouth College, an M.D. degree from Stanford University and postdoctoral training at Harvard and the NIH.

Source: Bloomberg Businessweek

1 **INTERVIEWEE:** Douglas Richman

2 **INTERVIEWER:** Mark Jones, PhD

3 **DATE:** August 4, 1997

4 **JONES:** How long have you been here at UCSD?

5 **RICHMAN:** Twenty-one years.

6 **JONES:** When did you meet Karl Hostetler and Dennis Carson?

7 **RICHMAN:** When I arrived, I became friends with them. Yeah, actually, one of the guys I did a
8 fellowship with at the NIH was a very close friend of Dennis', so I've known them both since I
9 got here.

10 **JONES:** And you've collaborated closely with them over the years?

11 **RICHMAN:** I've done research with them since the '70s, some collaborations, and we're
12 friends as well.

13 **JONES:** Were you working with Karl when he was working with calcitonin and putting it in
14 lipid envelopes?

15 **RICHMAN:** He was doing some of that. We had worked with a amantidine, an anti-influenza
16 compound. We'd done some research for that, and then he was doing his liposomal stuff and I
17 was working on anti-virals. We decided to put it together. There was a request for proposals
18 for drug discovery programs at the NIH. We responded to that, and my memory of it was that,
19 although we both thought it was a good proposal, the review committee decided to change the

20 review criteria from what the NIH requested proposal was, when they set up their criteria for
21 evaluation. The review criteria specified brain delivery, which had nothing to do with the NIH
22 request for proposals. So, we didn't get funded, and we were both upset about that. Karl was
23 so ticked off that he said, 'Well, I'm going to get private money to support it,' and that was the
24 start of, or at least part of the impetus of starting Vical. If we had gotten the NIH grant, we
25 might not have done it.

26 **JONES:** Were you planning to be part of this from the beginning, or was it just Karl's idea for
27 his stuff with calcitonin?

28 **RICHMAN:** No, what prompted the Vical stuff, I think, was primarily the anti-viral drug
29 delivery. Calcitonin was sort of added on, I think, as part of the package. Karl was sort of the
30 major driving force.

31 **JONES:** Do you recall how he got hooked up with Tim Wollaeger?

32 **RICHMAN:** I think he just started snooping around for venture capital, to start something. He
33 can tell you more of how, in his snooping, he managed to.

34 **JONES:** Then how did you get involved once...

35 **RICHMAN:** Well, you know, we were scientific collaborators, and that's been my role,
36 basically. I've sort of kept away from the business end. I've never fancied myself as much of a
37 businessman. I'm sort of a....

38 **JONES:** So, prior to this, you never had any notion of commercializing any of your research?

39 **RICHMAN:** No.

40 **JONES:** When did you start working with AZT?

41 **RICHMAN:** In the beginning, when it was actually the first...Sam Broder and I, we were interns
42 and residents together, and close friends. He was at the NCI at the time. He subsequently
43 became the director of the National Cancer Institute. But he was the one who evaluated the
44 drug under code for Burroughs-Wellcome, to show that it worked against HIV. And he called
45 me up to see the data, and discussed it with me before it actually became public. And then
46 they did the phase I study at the NCI, and when it was clear that it had some activity, and that
47 a large phase II study was needed, I was asked to be one of the people to design the multi-
48 center phase II trial.

49 **JONES:** And when Vical was started, was the idea initially to develop something with AZT?

50 **RICHMAN:** Yeah, the delivery of nucleosides in a more effective way was part of the concept,
51 yeah.

52 **JONES:** Is this something that Vical was shopping before Burroughs-Wellcome?

53 **RICHMAN:** No, clearly Burroughs-Wellcome had AZT. That was not an issue. But we thought
54 that we had a way that could potentially deliver it more effectively in a modified form. And in
55 fact, I guess the first business partner that Vical had was Burroughs-Wellcome, to evaluate
56 that.

57 **JONES:** And were you involved in setting that up, did you go and make presentations?

58 **RICHMAN:** Yeah, yeah, I sort of made the initial contacts, and we went to RTP [Research
59 Triangle Park] and made presentations.

60 **JONES:** So you knew people at Burroughs-Wellcome through your AZT research?

61 **RICHMAN:** Well, even before that. David Barry who was head of Infectious Diseases, and
62 subsequently became president of Burroughs-Wellcome, we were fellows together back at the
63 NIH, and I've known him since the early '70s.

64 **JONES:** So, they gave you, the company, \$5 million.

65 **RICHMAN:** I can't remember the numbers.

66 **JONES:** And you made it work, right? That was the outcome?

67 **RICHMAN:** Well, basically, the ultimate development of that AZT derivative was dropped by
68 Burroughs-Wellcome.

69 **JONES:** But you had delivered something to them that could have been developed into a
70 product.

71 **RICHMAN:** Yeah, and for various reasons, they chose not to do it.

72 **JONES:** So what was the fate of that technology?

73 **RICHMAN:** Well, this is something that has had its ups and downs because there were many
74 other subsequent derivatives of this technology that have gone into a whole series of patents
75 that Karl has been the prime mover on, with applications for hepatitis and HIV, and those
76 patents were...when Vical sort of discovered the naked DNA technology, it was decided by the
77 business leaders that they should keep the business plan clean and focused, and they sold off
78 all of the drug delivery component to Nexstar, or whatever, it was a different name initially,
79 and they were simply incompetent in developing and managing that opportunity. They
80 ultimately dropped it and gave it back to Karl.

81 **JONES:** So he owns it now?

82 **RICHMAN:** Yeah.

83 **JONES:** Is he trying to do something with it?

84 **RICHMAN:** Yeah.

85 **JONES:** But not with AZT, right?

86 **RICHMAN:** Yeah, but actually Boehringer-Mannheim is doing something with AZT that, in fact,
87 ended up being covered by one of these patents.

88 **JONES:** So they're now licensing it?

89 **RICHMAN:** Well, I think they had to license it, yeah. Karl can tell you the details.

90 **JONES:** Well, after the drug delivery component was sold off, did that effectively end your
91 participation in the company?

92 **RICHMAN:** No, when that was discovered, we had scientific advisory board meetings to
93 discuss what to do. And I suggested that the best way to prove that this was effective was to
94 show that you could immunize animals and protect them from dying. Prevention of death was
95 the most convincing. And so I suggested that the influenza model would be the best way to do
96 it. And actually I generated the reagents and the various constructs and viruses and models
97 from various colleagues that I knew from when I was in influenza research, and assembled
98 them, brought them to Vical, and designed the experiments that ultimately proved that the
99 naked DNA protected mice. They sold that to Merck and in its various configurations, I was
100 basically dropped from even the conception. You know, it was published without my name
101 even being acknowledged, that Science paper that showed that it worked, and my comments
102 to them about how they had performed and various other things probably led them to choose

103 to drop me, as well as Dennis Carson, from the Scientific Advisory Board. So, my history as a
104 co-founder, that was the end of it.

105 **JONES:** That was something that you decided not to challenge?

106 **RICHMAN:** I told them what I thought of them and just left. I have work to do. I'm an
107 academic.

108 **JONES:** Early on, were you involved in recruiting people to Vical?

109 **RICHMAN:** Yeah, I was involved in evaluating people like Danny King and Wick Goodspeed,
110 and various other people who were hired. I was involved in interviewing them and talking to
111 them.

112 **JONES:** And scientific people as well?

113 **RICHMAN:** Yeah, Phil Felgner, for example, right. So, early on, I was sort of more involved. I
114 was actually on the Board for the first several months or whatever, but as venture capital
115 came in, the venture capitalists took board positions.

116 **JONES:** Have you been involved in other companies locally, or elsewhere?

117 **RICHMAN:** I've been a consultant on scientific advisory boards for a number of companies.

118 **JONES:** Nexstar?

119 **RICHMAN:** No. Initially, Viagene. I'm on the board of company up in the Bay Area, Virologics,
120 and then I'm involved with Triangle, which Karl and Dennis founded.

121 **JONES:** What were the connections with Viagene?

122 **RICHMAN:** That's sort of a gene therapy company, and they wanted to get into HIV, so they
123 wanted somebody who knew something about HIV.

124 **JONES:** Who contacted you?

125 **RICHMAN:** Doug Jolly.

126 **JONES:** Did you know him when he was here?

127 **RICHMAN:** A little bit.

128 **JONES:** But mostly by reputation?

129 **RICHMAN:** Yeah, I guess so.

130 **JONES:** Are you involved with Dynavax?

131 **RICHMAN:** I'm on their SAB as well, because I've been working closely with Dennis and [?].

132 We have a paper in this month's Nature Medicine.

133 **JONES:** What was your impression when Vical started, you were aware of Hybritech?

134 **RICHMAN:** Yeah, actually Ivor and Sam Broder and I were all interns and residents together at

135 Stanford, twenty-seven, eight years ago, and his lab was right next to mine at the VA.

136 **JONES:** Did you ever collaborate with him?

137 **RICHMAN:** I never did any research collaboration, but I knew what they were doing, and I

138 knew Howard Birndorf, his lab tech in the lab next door at the VA on the sixth floor.

139 **JONES:** What was your impression of the Hybritech people and what was going on?

140 **RICHMAN:** It struck me as more entrepreneurial than science, but, you know, that's fine, I've

141 got my work to do.

142 **END INTERVIEW**

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The San Diego Technology Archive (SDTA), UC San Diego Library, La Jolla, CA.



The San Diego Technology Archive (SDTA), an initiative of the UC San Diego Library, documents the history, formation, and evolution of the companies that formed the San Diego region's high-tech cluster, beginning in 1965. The SDTA captures the vision, strategic thinking, and recollections of key technology and business founders, entrepreneurs, academics, venture capitalists, early employees, and service providers, many of whom figured prominently in the development of San Diego's dynamic technology cluster. As these individuals articulate and comment on their contributions, innovations, and entrepreneurial trajectories, a rich living history emerges about the extraordinarily synergistic academic and commercial collaborations that distinguish the San Diego technology community.