

# Thomas H. Adams

*Interview conducted by*

*Mark Jones, PhD*

*August 4, 1997*

SAN DIEGO TECHNOLOGY ARCHIVE



The Library  
UC SAN DIEGO

## Thomas H. Adams



Dr. Thomas H. Adams, Ph.D. has been Chief Technology Officer of Iris International, Inc. since April 3, 2006 and its Corporate Vice President since April 2006. Dr. Adams co-founded Leucadia Technologies, and has been its Chief Executive Officer since September 1998. He is a senior executive of Iris Inc. He serves as the Chairman and Chief Executive Officer of Iris Molecular Diagnostics. He is a seasoned corporate executive and scientist with extensive medical technology experience. From 1989 to 1997, he served as Chief Executive Officer of Genta, Inc. In 1984, he co-founded Gen-Probe Inc. and served as Chief Executive Officer until its acquisition by Chugai Biopharmaceuticals, Inc. in 1989. He co-founded Hybritech Inc. From 1980 to 1984, He served as Senior Vice President of Research and Development and Chief Technology Officer of Hybritech, Eli Lilly and Co., where he achieved the first U.S. Food and Drug Administration clearance for a monoclonal antibody diagnostic product and developed the PSA test for prostate cancer, along with numerous other diagnostic products and which was later acquired by Eli Lilly and Company in 1986. Previous positions held by Dr. Adams include Vice President of Clinical Chemistry Research and Development at Technicon Instruments Corp., and Director of Research and Development at Baxter International Inc.'s (NYSE: BAX) Baxter Laboratories. He has also held management positions at the Hyland Division of Baxter Travenol. He co-founded Genta, Inc. and serves as its Chairman Emeritus. He has been Chairman of Leucadia Technologies since September 1998. He has been Chairman of TrovaGene Inc. since April 21, 2009. He served as Chairman of Gen-Probe Inc. until its acquisition by Chugai Biopharmaceuticals, Inc. in 1989. He has been a Director of Synergy Pharmaceuticals, Inc. since July 2008. He serves as a Director of Bio-Mems, Iris Molecular Diagnostics and Invitrogen, Inc. He serves as a Director of Xenomics Inc. Dr. Adams served as a Director of XiFin, Inc., since 1997. Dr. Adams served as a Director of Iris International Inc. from June 10, 2005 to May 20, 2011. He served as a Director of La Jolla Pharmaceutical Co. from 1991 to September 3, 2009. He served as a Director of Biosite Diagnostics, Inc., from 1989 to 1998 and of Life Technologies Inc. since April 1992. Dr. Adams served as a Director at Xenomics Inc. (formerly Used Kar Parts Inc.) from October 2004 to December 1,

2005. While at Gen-Probe, he received the first FDA clearance for a DNA probe diagnostic product and received Inc. Magazine's Product of the Year award in 1987 for a diagnostic product for Legionnaires' disease. He is the author of numerous patents and publications in diverse areas of biomedical science and a recipient of a 1993 DuPont Award for Technical Achievement. Dr. Adams holds a PhD in Biochemistry from the University of California at Riverside.

Source: Bloomberg Businessweek



*THE SAN DIEGO TECHNOLOGY ARCHIVE*

**INTERVIEWEE:** Thomas H. Adams

**INTERVIEWER:** Mark Jones, PhD

**DATE:** August 4, 1997

1 **JONES:** You have a PhD from Riverside in biochemistry. How did you originally get  
2 interested in science?

3 **ADAMS:** Oh, I don't know. It seems like I was always interested in science, probably  
4 as a kid, you know, the usual stuff, building rockets and that kind of stuff.

5 **JONES:** When it was time to go to college, where did you go?

6 **ADAMS:** I went to Chico State.

7 **JONES:** And your major was?

8 **ADAMS:** Chemistry.

9 **JONES:** Why did you decide to pursue a PhD in the field?

10 **ADAMS:** I'd spent two summers at the University of California at Davis, on an NIH  
11 undergraduate traineeship in the biochemistry department, and so, you know, that  
12 was a good experience working with the graduate students and the various faculty  
13 members over there, and I decided that I was going to go to graduate school.

14 **JONES:** Why did you pick Riverside?

15 **ADAMS:** I was thinking about going to Davis, and then I met folks down at Riverside  
16 and I thought that that would be a good place to go.

17 **JONES:** Did you go there to work with somebody in particular? Well, kind of. I  
18 mean, I ended up working with Tony Norman.

19 **JONES:** What did you work on while you were there?

20 **ADAMS:** My dissertation was on vitamin D mediated calcium transport. What it was  
21 the entire Norman laboratory was working on the mechanism, the action, of vitamin  
22 D, so, you know, vitamin D is really a hormone, it initiated all sorts of events  
23 associated with calcium metabolism and my project was really to look at kind of the  
24 mechanism of calcium transport that's induced by vitamin D in the small intestine.

25 **JONES:** While you were doing the PhD, did you have in mind that you would follow a  
26 typical academic career track?

27 **ADAMS:** No, I didn't. I thought I wanted to work in industry.

28 **JONES:** What was the atmosphere like in the department at Riverside? Were a lot of  
29 people then going to industry rather than academic careers?

30 **ADAMS:** I was about the first one to go into industry.

31 **JONES:** How did the people at Riverside feel about that? Did they encourage you to  
32 do that?

33 **ADAMS:** Well, I mean, there's always that discussion, but I thought that they were  
34 pretty balanced in their point of view.

35 **JONES:** Was Norman involved with industry at all?

36 **ADAMS:** Yes, he was a consultant to industry, and he had a lot of friends that worked  
37 in industry, so he knew a lot about it.

38 **JONES:** So, when you decided that you wanted to do that, did he help you line up a  
39 first job?

40 **ADAMS:** Yes, he actually introduced me to some people, but I ended up interviewing  
41 at the DuPont Company, and I decided that that looked like a real interesting  
42 opportunity.

43 **JONES:** What was it about DuPont that was attractive?

44 **ADAMS:** Well, they were involved in, it was a small group of people, about fifty  
45 scientists and engineers that were working on development of a new automated  
46 clinical analyzer system and disposable test packs, and they were looking for people  
47 that had kind of a broad- based background, which I fit pretty well into, and you

48 know, it was a very exciting group of people, so I went from Riverside to the DuPont  
49 Company.

50 **JONES:** Did you have other opportunities at the time that you considered?

51 **ADAMS:** Yes, I also seriously considered a job at what was then SmithKline & French  
52 in Philadelphia. They were developing a drug for ulcers, and that was the program  
53 that they wanted me to work on.

54 **JONES:** But you went to DuPont and this was an instrument project?

55 **ADAMS:** An instrument reagent system, so it was, you know, enzymes and  
56 substrates, that kind of thing, fairly conventional clinical chemistry, but it had to be  
57 adapted, and we actually ended up having to invent certain chemistries that would do  
58 it, so I invented several different assays while I was there.

59 **JONES:** Are these patented?

60 **ADAMS:** Yes.

61 **JONES:** How long were you there working on this project?

62 **ADAMS:** I was there for four years.

63 **JONES:** The whole time working on this particular program?

64 **ADAMS:** Right.

65 **JONES:** Did you go from there to Hyland?

66 **ADAMS:** Yes.

67 **JONES:** What were the circumstances surrounding that?

68 **ADAMS:** Well, they were looking for somebody to head up a diagnostics group in  
69 Costa Mesa that, again, had a pretty broad background, so I decided that I'd do that.

70 **JONES:** Did they contact you?

71 **ADAMS:** Yes, headhunters.

72 **JONES:** What convinced you to make the move?

73 **ADAMS:** Oh, it was a situation where I thought I could do something. I think I left  
74 DuPont, DuPont is a fine company, but if you're there and you're a young person, as I  
75 was, you look around and you see that it's a very ordered situation in terms of  
76 advancement, that sort of thing. I was a senior research chemist and group leader by  
77 the time I left, and I thought that I could eventually lead a program like that entire  
78 group, probably before I was forty, and I didn't see it happening there.

79 **JONES:** But you did see it at Hyland?

80 **ADAMS:** Yes.

81 **JONES:** It was a smaller place?

82 **ADAMS:** Sure. It was a division of a company of a big company, but it had its own  
83 P&L [profit and loss statement] and...

84 **JONES:** What about the people at Hyland? Certainly that must have played some  
85 part in your decision. You thought they had good people?

86 **ADAMS:** Yes, I think, well Baxter, Baxter-Hyland, you know, they're a real  
87 powerhouse in healthcare, and if you know much about this thing here, you know  
88 that lots of us went through Baxter once upon a time, in fact, the entire biotech,  
89 there's a similar genealogy that's been established for Baxter.

90 **JONES:** Do you know who did that?

91 **ADAMS:** Not just offhand, but you could just go right down the list of companies that  
92 were founded by former Baxter people and it's a big group. In fact, somewhere  
93 around here I've got a directory, we had a reunion in '89 of Baxter people, of people  
94 who had gone through Baxter and went on to different medical companies.

95 **JONES:** Was Ted Greene there at the time?

96 **ADAMS:** Yes, Ted was at Hyland. He was the Director of Planning.

97 **JONES:** What year was this?

98 **ADAMS:** I went there in '73 and left in '79.

99 **JONES:** What kind of work were you doing there precisely?

100 **ADAMS:** I was Director of Chemistry Research, so we were developing diagnostic  
101 tests and new biological quality control materials.

102 **JONES:** I've heard Ted Greene speak about a product that you worked closely  
103 together on. You were doing the technical end and he was involved in the marketing,  
104 do you recall, were there one or more of these products?

105 **ADAMS:** Yes, Ted and I worked pretty closely together.

106 **JONES:** Was David Kabakoff there?

107 **ADAMS:** Yes, I hired David in '75.

108 **JONES:** Were other people there who ended up at Hybritech?

109 **ADAMS:** Yes, Russ Saunders was there, and Bob Peradowski was there, well, you  
110 know, my wife, Barbara was there, she was at Hyland, and I'm trying to think who  
111 else, I can't recall.

112 **JONES:** So, you were there another three or four years?

113 **ADAMS:** I was there six years.

114 **JONES:** When you left, was this before Baxter reorganized and moved the division,  
115 and I don't know exactly what happened...

116 **ADAMS:** Yes, I think it was in the beginning of '78 that they announced that they  
117 were going to move the diagnostics division to Illinois, and so they wanted to know  
118 how many people could we, you know, talk into going back there, and I wasn't one of  
119 them. I told them that up front.

120 **JONES:** I read a book about Baxter by a guy named Tom Cody, he did a corporate  
121 history of Baxter, and he talks about the "Costa Mesa Saturday Night Massacre."  
122 Have you heard that term?

123 **ADAMS:** Yes, well this isn't the same one we're talking about. It was earlier. That's  
124 when, I forget the guy's name now, who was the president, Norm Aiken was the  
125 president, and they came out and sacked the entire group.

126 **JONES:** You were there at that time?



127 **ADAMS:** No, this was prior. It was probably about 1970.

128 **JONES:** Did you leave because this was happening, they were going to move it back  
129 to Chicago? Was that a big part of your decision to leave Hyland?

130 **ADAMS:** Well, it was part of it, but I mean, it just, you know, I had thought that, I'd  
131 spent a lot of time in Chicago, because we had a manufacturing plant there, and I  
132 knew a lot about it and it wasn't some place where I wanted to go.

133 **JONES:** So you went from there to Technicon. How did that come about?

134 **ADAMS:** Again, it was headhunters. I mean, you know, during that entire period of  
135 time, people were proposing different things to me, and Technicon was the leader in  
136 the diagnostics field and they offered me the job of Vice-President of Chemistry  
137 Research and Development, at a quite a bit larger salary and lot more responsibility,  
138 so I decided to do that.

139 **JONES:** Were they mainly an instrument company, too?

140 **ADAMS:** Instrument reagent systems.

141 **JONES:** So, you were doing basically the same kind of stuff from the time you started  
142 at DuPont?

143 **ADAMS:** Yes.

144 **JONES:** Well, the recruiting process of going from Technicon to Hybritech, that took  
145 quite a while for them to talk you into coming to San Diego. What was going on at  
146 that period of time?

147 **ADAMS:** Well, you know, Ted had just started Hybritech and he was calling me all  
148 the time and asking me about this and that, and finally started to try to talk me into  
149 coming out there. Well, I hadn't been at Technicon all that long, and my family had  
150 just relocated, so I wasn't really interested at the time, when I first started talking to  
151 him.

152 **JONES:** Hybritech was just this little start-up, did that have anything to do with, that  
153 it might be a risky move?

154 **ADAMS:** No, I didn't think about that so much. Really, I just hadn't been there that  
155 long, and Technicon was a neat company, and I was working for John Whitehead,  
156 who was the founder's son. You know, Jack Whitehead was still there, he was  
157 Chairman, and probably one of the smartest guys I've ever met in the medical field,  
158 and they gave me a lot of responsibility, and I was, at the time, thirty-five, and  
159 arguably had the top job in the industry on the R&D side.

160 **JONES:** What did it take then to talk you into coming?

161 **ADAMS:** Well, it's kind of funny. There were a couple of things going on. One was I  
162 got a call, it was probably in December of '79, I got a call from my boss late Friday  
163 night, and he said that Jack had decided to sell the company, and Jack Whitehead  
164 owned 85% of Technicon, and it was worth, you know, several hundred million  
165 dollars. He was in his sixties, I think, and so, there had been rumors flying around for  
166 a long time that General Electric, J&J, or Revlon were going to acquire Technicon, so  
167 he said they were going to announce it on Monday morning. I said, 'OK, which  
168 company is it?' And he said, 'Revlon.' So, I mentally, right then, left.

169 **JONES:** Did Revlon have a reputation?

170 **ADAMS:** Not a good one. GE and J&J might have been a different story.

171 **JONES:** And you might have considered staying on then?

172 **ADAMS:** Yes, and the thing about it was, I knew that, you know, with Revlon coming  
173 in, Jack would be gone, and as it turned out, they acquired Technicon in May of '80,  
174 and I arrived at Hybritech in April of '80, so that's how long it took at that point.

175 **JONES:** So, it wasn't a matter of Hybritech sweetening the deal?

176 **ADAMS:** No, because I took a pretty big salary cut to come out here. Anyway, so that  
177 happened, and when Ted called, I listened a little bit closer to what he was doing,  
178 that's what it was. That was an area that I had an interest in, and I thought that with  
179 my background and experience, I'd probably be able to help them out.

180 **JONES:** Did you talk to other people besides Ted during that period? For instance, a  
181 lot of people have told me that Brook Byers or one of the other venture capitalists or  
182 board members would get involved.

183 **ADAMS:** Yes, well I interviewed with Brook and Tom Perkins, Dave Anderson at  
184 Sutter Hill and his partner.

185 **JONES:** Was this after negotiations had really gotten serious?

186 **ADAMS:** Yes, right.

187 **JONES:** But before that, it was really just Ted trying to talk you into it?

188 **ADAMS:** Yes.

189 **JONES:** Well, Hybritech had just gotten started, there wasn't much there. What was  
190 your impression of the company at the time?

191 **ADAMS:** Well, it was Ted and a bunch of scientists. They had some really good  
192 people, and what they needed early on was to be able to focus on a product, so that's  
193 what we did.

194 **JONES:** When you arrived, they had produced research antibodies, but this was  
195 before, I guess IgE was the first test.

196 **ADAMS:** Yes, they had developed the antibodies for IgE already. They were working  
197 on an assay based on, it was a two-site immunometric assay that used sepharose as a  
198 solid phase. I didn't believe that that would be commercially successful because it  
199 required sensoration, so we changed the development path a little bit by going to a  
200 bead in a tube assay, and we developed a method for covalently linking the antibody  
201 onto the bead, and the first assay was I125 labeled, so we recruited Russ Saunders who  
202 had experience from Nuclear Medical Laboratories, and Bob Wang was already there,  
203 so those two guys kind of became the core of the development effort. You know,  
204 Gary David continued to do more on a research track, and Joanne Martinis, you  
205 know, was the wizard behind all the cell biology.

206 **JONES:** Do you recall that this went pretty smoothly, taking the chemistry they had,  
207 making these changes, and turning it into a product?

208 **ADAMS:** No, I mean, on something like the, we had, you know, big trouble trying to  
209 put these antibodies on the beads, but we finally worked it out.

210 **JONES:** Russ Saunders and Bob Wang, these were some of the key people involved in  
211 making it work?

212 **ADAMS:** And Gary David, and obviously Joanne.

213 **JONES:** Some people have told me that right before you came, Ted Greene had done  
214 some things to prepare, you know, in the beginning it was very loose and science-  
215 oriented, rather than product oriented, and he tried to make some changes in the  
216 organization to sort of prepare the place for you arriving and turning it into an  
217 industrial R&D operation. Were there a lot of problems at the time, doing that,  
218 organizing the research?

219 **ADAMS:** Yes, well, it wasn't organized at all when I got there. I mean, these guys  
220 called themselves the junior woodchucks, you know, so all the scientists reported to  
221 Ted directly, and that was just unworkable, so I put together an organization out of  
222 the people that were there, so we turned it into a more professionally run R&D  
223 organization.

224 **JONES:** How did people respond to that?

225 **ADAMS:** I think it went OK?

226 **JONES:** You were involved in developing the PSA test?

227 **ADAMS:** Yes, I mean, all those tests that they eventually got on the market, you  
228 know, were started in that period of time when I was there, and the one thing that I  
229 did notice, in fact, if you read through the things, you'll find that there wasn't one  
230 research notebook that had been signed and witnessed, so it was in May of that year  
231 that we actually signed and witnessed them all, and it turns out that the Federal  
232 Court of Appeals ruled that they'd been signed and witnessed contemporaneously,  
233 and the reason was, there hadn't been any professional R&D person there at the  
234 beginning, so that turned out to be a very key thing in terms of upholding Hybritech's  
235 patents, so I think, Gary and Ted dreamed this thing up, they were the two inventors  
236 of TANDEM, and it was a good assay, and we developed a lot of products based on  
237 that.

238 **JONES:** As the organization started to grow, you were bringing in scientists and  
239 managers, a lot of different people, were you involved in recruiting?

240 **ADAMS:** Yes, a little.

241 **JONES:** Where did you go to find people, mainly industry?

242 **ADAMS:** We used headhunters and we used our own personal contacts.

243 **JONES:** Do you remember some of the key recruitments?

244 **ADAMS:** Well, we recruited David Kabakoff, Ted and I did, and we recruited Russ  
245 Saunders, again that was a personal contact.

246 **JONES:** When you talked to David Kabakoff at Syva, was it hard to get him to come  
247 down?

248 **ADAMS:** I don't recall, actually.

249 **JONES:** Did you have any problem attracting people, because even though there were  
250 products on the market, it was still a small place?

251 **ADAMS:** I don't recall that we had much trouble getting the people we wanted.

252 **JONES:** You had the resources you needed to develop these products – that was never  
253 a problem?

254 **ADAMS:** Well, we were a little short on cash once upon a time, but you know, I think  
255 the group of VCs we had there really solved that problem, and Ted was very efficient,  
256 he was very good at raising money. He was really able to organize and tell the story  
257 very effectively.

258 **JONES:** When you initially came on, was the fact that they were backed by Kleiner-  
259 Perkins...

260 **ADAMS:** That was important.

261 **JONES:** Is that something that you would use to recruit people, you know, we're  
262 small, but we've got deep pockets?

263 **ADAMS:** Yes.

264 **JONES:** Well, you started in the spring of 1980...

265 **ADAMS:** And I left in June of '84.

266 **JONES:** Right, when did start thinking about doing something else?

267 **ADAMS:** Well, I mean, it was just kind of the normal course of my job. In '83, Gary  
268 David introduced me to Dave Kohne. I think we'd actually met earlier than that, but  
269 Dave was looking to raise some money, so I went down and took a look at his  
270 technology, which was the DNA probe technology that Gen-Probe now has, so I went  
271 to Ted, basically, and told him that this DNA probe stuff was something that was very  
272 interesting and something that Hybritech ought to get involved in. The company, for  
273 one reason or another, decided that they were going to stay in antibodies, so then  
274 Howard Birndorf and I asked the Board if it was OK if we made a private investment  
275 since the company had turned it out, so we formed Gen-Probe Partners in '83, and  
276 capitalized it with enough money to keep Kohne running for a year, and we gave him  
277 some technical milestones that we wanted him to meet. He met the milestones, so  
278 Howard and I had a decision to make. We decided to leave and start Gen-Probe. In  
279 the meantime, David Hale had become president and David was always interested in  
280 microbiology because that's where he came from, BBL, and David wanted to make an  
281 investment, so actually it turned out that Howard and I left with two million bucks,  
282 and a major shareholder in the form of Hybritech.

283 **JONES:** But that was a lengthy process, putting that in place. What were some of the  
284 issues involved?

285 **ADAMS:** Well, we were just going to raise venture money, originally, and then  
286 Hybritech decided that they were interested, and so, I don't remember any of the  
287 details any longer.

288 **JONES:** Well, your expertise was in immunodiagnostics, when Dave Kohne came to  
289 you with this DNA technology, how did you evaluate that?

290 **ADAMS:** Yes, if you look at my background, back from the DuPont days, what I really  
291 worked on was, you know, methods of detecting things. So, believe it or not, there is  
292 some similarity between antibody-antigen reactions and DNA probe reactions. Both  
293 of them are bimolecular, both of them as they were designed required a separation of  
294 free from bound, both of them needed sensitive labels, both of them needed low  
295 backgrounds and non-specific binding. There's a great deal of similarity, actually.

296 **JONES:** Were you confident that it would work?

297 **ADAMS:** I didn't know, actually. Dave Kohne's method that he developed was very,  
298 well, it was suitable for a research lab, so we knew that we needed a very sensitive

299 label. Stewart Woodhead was a fellow that we'd worked with for quite a while. He  
300 was an academic. He had developed this acridinium ester label technology. He had  
301 licensed it to Corning for antibodies, and we talked him into licensing it to Gen-  
302 Probe for DNA probes.

303 **JONES:** That was a key part?

304 **ADAMS:** That was a key part of it. Then I licensed the magnetic separation materials  
305 from Advanced Magnetics, from Jerry Goldstein, a former Baxter guy.

306 **JONES:** This was for later products, though, right?

307 **ADAMS:** It's the basically the basis of all their products today.

308 **JONES:** But the first products that Gen-Probe developed...

309 **ADAMS:** Was a research product, yes, that used early stage technology.

310 **JONES:** But the first clinical products used that?

311 **ADAMS:** No, the first clinical products actually used I125 labeled DNA probes.

312 **JONES:** And David Kohne remain involved in developing these products all the way  
313 through? There were a number of generations, right? What was his involvement?

314 **ADAMS:** He was a chief scientist.

315 **JONES:** Let me back a bit to Hybritech. Had you known about monoclonal  
316 antibodies before?

317 **ADAMS:** Sure.

318 **JONES:** Did you think that those would work, that you could make products with  
319 them?

320 **ADAMS:** Yes, I did, in fact, actually I knew quite a bit about the immunodiagnostic  
321 field because I was in charge of a program at Technicon which was an automated  
322 immunochemistry analyzer, and I knew what the limitations of conventional  
323 antibodies were, and I thought that, with a good cell biology group, that you could  
324 develop monoclonals that had the right specs, and that would turn that business into

325 a giant business, because the availability of the antibodies was always a problem  
326 because of the animals.

327 **JONES:** Do you remember how you first heard about monoclonals?

328 **ADAMS:** No, I don't. It might have been Ted. I think it was probably Ted.

329 **JONES:** When he was telling you about this idea?

330 **ADAMS:** Yes, in fact, I think we were still at Hyland.

331 **JONES:** Did he ever try to get Hyland to develop monoclonals?

332 **ADAMS:** I don't know.

333 **JONES:** In terms of funding Gen-Probe, was Kleiner-Perkins one of the first places  
334 you went?

335 **ADAMS:** Yes, and then after the first round from Hybritech, then we started  
336 preparing to go out and raise more money, so obviously Kleiner-Perkins was one of  
337 the first that we went to talk to, but we raised money from several different VCs,  
338 there was CW Group, Kleiner- Perkins, Fairfield Ventures.

339 **JONES:** And you had decided to do this with Howard? You had a lot of confidence in  
340 Howard?

341 **ADAMS:** Yes, Howard is a cruise missile when it comes to getting certain things  
342 done, yes.

343 **JONES:** You thought that, in the beginning, you, he, and David Kohne would be the  
344 basis for a company?

345 **ADAMS:** Yes, we did.

346 **JONES:** Well, in recruiting people for Gen-Probe, I know that Bob Wang came  
347 eventually to...

348 **ADAMS:** Gen-Probe. So did Russ Saunders.

349 **JONES:** Yes, what were the circumstances surrounding those transitions from  
350 Hybritech?



351 **ADAMS:** I don't know. I think both of them were looking to do something else.  
352 They'd been at Hybritech a long time.

353 **JONES:** Did they come over very early?

354 **ADAMS:** It was probably '85, '86, something like that. Pretty early.

355 **JONES:** When you started Gen-Probe, you had been head of product development at  
356 Hybritech and that was the kind of thing that you had been doing at these prior  
357 companies, was it an adjustment for you to take this broader role, more overall  
358 responsibility, being at the top, basically?

359 **ADAMS:** Yes, it was a big change.

360 **JONES:** What kinds of things did you find yourself doing that you hadn't before?

361 **ADAMS:** Well, I had never really been involved in raising money before, so that was  
362 new, and I've obviously, that was probably the major difference. The rest of it was  
363 pretty much the same, because then it was a product development organization,  
364 basically. But we recruited some top people, and you know, the products worked.

365 **JONES:** Howard left at the end of '87, what were the circumstances surrounding that?  
366 Why did he decide to leave?

367 **ADAMS:** Oh, I don't know, I think Howard, while he was there, he founded IDEC,  
368 and Howard was always looking at other things, and you know, we had some  
369 disagreements, and I think he decided that he wanted to do something else?

370 **JONES:** Were these disagreements about the direction of the company? Or about his  
371 role in the company?

372 **ADAMS:** Well, he was in charge of corporate development, and I thought he did a  
373 good job, so it wasn't over that, but we had brought in a new president, Tom Bologna,  
374 just before we went public, and you know, it was all over that stuff.

375 **JONES:** You were at Hybritech when Hybritech went public. Were you much  
376 involved in that?

377 **ADAMS:** Not too much.

378 **JONES:** So when Gen-Probe went public, obviously, this was the first time you went  
379 through that process. What was that like?

380 **ADAMS:** Well, I think we were ready to go public. We had gotten ten of the first  
381 eleven DNA products cleared by the FDA, and Inc. Magazine named one of our  
382 products as one of the Products of the Year, and that kind of stuff, so it had very high  
383 visibility, and we were able to attract top-rate investment bankers, you know, Merrill  
384 Lynch and Alex Brown were the two firms, and we hired Tom Bologna, and actually,  
385 we'd already selected the bankers and everything else, and basically took him on the  
386 roadshow.

387 **JONES:** Where did he come from?

388 **ADAMS:** He came from BD, and we had had a search out looking for people.

389 **JONES:** And you were impressed with him and got along with him?

390 **ADAMS:** Yes, I think he's a very qualified guy.

391 **JONES:** Was the stock market crash after the IPO bad for Gen-Probe?

392 **ADAMS:** Yes, it was. Because if you think about it, we went public around the 1st of  
393 October, and twenty days later or so, then all of a sudden the stock price is cut in  
394 half. So, we had a bunch of unhappy investors the entire time. I mean, they were  
395 just...the company was doing what it said it was going to do, but everybody looked at  
396 their investment as not being very attractive.

397 **JONES:** You'd raised a lot of money from 1984 through '87, '88, do you think you had  
398 enough money to develop the products and market them? What were the problems  
399 that cropped up in 1988?

400 **ADAMS:** Yes, we were running short on cash, and so, you know, we were in a  
401 position where we had to raise money with a pretty ugly stock price, or look for a  
402 large corporate partner or an acquisition, or something like that, so we started  
403 pursuing all of those paths, actually.

404 **JONES:** And Chugai was one?

405 **ADAMS:** Chugai had already done a deal with us, so they were one of the parties that  
406 we started talking to.

407 **JONES:** Did you do other major partnerships?

408 **ADAMS:** That was basically the only corporate partner that we had.

409 **JONES:** So, it was somewhere around 1988 that started thinking about doing Genta?

410 **ADAMS:** Well, we had started a pharmaceutical program at a real low level in '87,  
411 actually, so sometime in '88, Tom Bologna started making noises that he wanted to  
412 be made CEO, and it became apparent to me that, well two things, one, he wanted to  
413 run the diagnostics business, and we couldn't afford to pursue a pharmaceutical  
414 program, because we were short on cash, and so I asked the Board if, I told them that  
415 I would prepare a plan to spin out the antisense end of it. And the Board went along  
416 it, and I made that decision to go with it.

417 **JONES:** But Gen-Probe hadn't licensed the Johns Hopkins technology, is that right?

418 **ADAMS:** Right.

419 **JONES:** How did you meet those guys?

420 **ADAMS:** Actually, we ran across a patent that had been filed, and Howard Birndorf  
421 called Paul T'sao.

422 **JONES:** So they filed it, but nobody else had picked it up?

423 **ADAMS:** No.

424 **JONES:** And you thought that there was potential for antisense technology?

425 **ADAMS:** Yes.

426 **JONES:** Was Genta one of the first companies? Was anybody else doing it?

427 **ADAMS:** Well, Stanley Crooke was involved in starting a company, and in fact, we sat  
428 down and talked, actually, but we were one of the first.

429 **JONES:** Well, putting Genta together, did those guys come from Hopkins to work  
430 with Genta?

431 **ADAMS:** No, they stayed at Hopkins.

432 **JONES:** So where did you find people to work on this?

433 **ADAMS:** Well, we started looking high and low, basically. Because we were spinning  
434 it out, Gen- Probe agreed that we could take a certain number of people, and so we  
435 started with a core technical group. Mark Reynolds, Lyle Arnold, and some other  
436 folks, and then we recruited the rest of them. And so in the process of deciding  
437 whether this thing could be spun out, one of the criteria was whether it could be  
438 funded or not, so we brought somebody in to evaluate it, which was Jim Blair from  
439 Domain. And he agreed to evaluate it with the proviso that if he liked it, he could put  
440 the money in, so he did, I think probably a million bucks, and Gen-Probe put up a  
441 million bucks, and we spun it out.

442 **JONES:** Who then subsequently came in?

443 **ADAMS:** The first full round, then, was led by IVP, Sam Colella, and Kleiner-Perkins  
444 came in, U.S. Ventures, Asset Management, also a Hybritech investor.

445 **JONES:** Was this Pitch Johnson?

446 **ADAMS:** Yes, Pitch Johnson.

447 **JONES:** Was Brook Byers involved, or was it somebody else?

448 **ADAMS:** No, Brook was involved, and Brentwood Associates.

449 **JONES:** So, with Genta, then, you signed some important partnership agreements?

450 **ADAMS:** Well, P&G, early on, then with Wyeth-Ayerst, so all in all, we raised, you  
451 know, around a hundred million bucks.

452 **JONES:** But that wasn't enough in the end?

453 **ADAMS:** Well, you know what it was, in '93, we were doing a financing in '93, and it  
454 was led by Alex Brown, and we made a choice basically of doing either a preferred  
455 round, which is what we did, preferred stock, or stock at a discount, you know, like a  
456 15% discount. We did that round, the preferred round, at like \$6.90 a share, and it  
457 turned out that that deal structure was just a disaster because it really gave the  
458 preferred holders a headlock on the company, and the closer that it came, as we  
459 approached that date of mandatory conversion, it made it impossible for us to raise

460 money under any reasonable terms. And it turned out that we had, you know, some  
461 of the investors that were in that round were just, they were out to take the company.

462 **JONES:** Is that what happened, when you decided to leave?

463 **ADAMS:** Well, because of this financing, it was very, very difficult to raise money  
464 under any reasonable terms and we were short on cash, and we were in danger of  
465 being delisted by NASDAQ, and we finally located Paramount Capital, the Aries fund,  
466 who were willing to put the money up, but we knew that we were probably going to  
467 get sued. So, we did the financing, and sure enough, this one group from the  
468 preferred sued us, but it turned out that the Delaware Court found that Directors of  
469 the company were in the right – that these guys were really basically up to no good.

470 **JONES:** Was this for you personally, a stressful period. I mean, I imagine it would be.  
471 What was your experience?

472 **ADAMS:** Well, I mean, it was a really tough experience. I can tell you that in 1996, we  
473 had twenty-five board meetings between July and January, so that's how much  
474 activity was going on at the board level. And yes, I traveled 300,000 miles in 1996.

475 **JONES:** Trying to raise money?

476 **ADAMS:** Trying to raise money. So, that was really a tough time.

477 **JONES:** Would you say that this worse for you than when Gen-Probe was having  
478 problems, just personally?

479 **ADAMS:** No comparison.

480 **JONES:** You're here now, you talked to Howard?

481 **ADAMS:** Well, Howard's been talking to me for a long time, trying to get me to come  
482 over here.

483 **JONES:** To turn what they have here into a product? I don't really know very much  
484 about the technology here, can you give me a brief description?

485 **ADAMS:** Sure, it's a very broad technology platform, which marries the advantages of  
486 arrays with either DNA probes or antibody-antigen, or just about any other kind of  
487 receptor-ligand kind of reaction you could dream of, and what differentiates

488 Nanogen's products from other people in the field, are that this is an active array.  
489 Affymetrix, which is a public company valued at probably around six hundred  
490 million, something like that, has large arrays where they synthesize DNA on a piece  
491 of glass, basically, but Nanogen's technology utilizes the fabrication processes of the  
492 semiconductor industry to end up with an active array, so each one of these little 80  
493 micron pads is an active electrical element, so you can bias them either positively or  
494 negatively in a tract to repel molecules at each particular address, and so it will be  
495 possible to do, you name the number of assays that you want to perform on a certain  
496 sample, in order to be able to do panel testing. At Technicon, we used to put  
497 together these big instruments that would fill up this room and sold for \$300,000 and  
498 they'd twenty tests on a single specimen, 150 samples an hour. This will all be done on  
499 a chip and you actually need a microscope to see the pads, because they're only 80  
500 microns or 150, so this will be, it's kind of the next big step in the diagnostics field.  
501 And so, it uses fairly standard semiconductor industry manufacturing technology, at  
502 least the front end of it is, the photolithography, the chemical etching, metal  
503 deposition, the wire bonding. Then we marry the biological chemistry end of it,  
504 which is the DNA synthesis and detection.

505 **JONES:** When Howard first told you about this, again, your expertise is not this kind  
506 of hardware, what did you think of the idea? Did you think it could work?

507 **ADAMS:** Yes, sure. In a way, electrophoresis is what it is, on a micro-scale, so two or  
508 three years ago, he asked me to join the board here, so I did it. I've been a consultant,  
509 so I decided to put more time into it.

510 **JONES:** You're also on the board at Biosite. What did you think about their idea? I  
511 talked to Dick Schneider not too long ago, and he told me that he declined to invest  
512 because he didn't think it could work? But you thought it was a good idea?

513 **ADAMS:** Oh yes, you know those are good guys, and you know, the assay format that  
514 they put together, they described it to me, and I looked at it and said, 'Hey, that'll  
515 work.' And they've been quite successful doing it.

516 **JONES:** Have you been involved in any other Hybritech-related companies?

517 **ADAMS:** I was consultant to Gensia once upon a time, I was consultant to IDEC once  
518 upon a time.

519 **JONES:** And these are all connections where people you knew from Hybritech came  
520 to you and said, 'Hey, can you help out here?'

521 **ADAMS:** Yes, Howard was the one who got me involved with IDEC, and Howard and  
522 David Hale got me involved with Gensia.

523 **JONES:** Do you have any anecdotes of funny stories about things that have happened  
524 over the years?

525 **ADAMS:** Well, I remember, when we first at Hybritech, you know, we filed the 510K  
526 for IgE, and it was getting to be about the end of the ninety day period, and I was in  
527 Washington, in Bethesda, at a meeting, and I called the reviewer to try to set up an  
528 appointment to find out where it stood, Dr. Liddy. So I called and left a message, left  
529 a number for him to call me back at the hotel, and I told him I wanted to meet with  
530 him. No call back, I called again. No call back, and finally, I called his secretary and  
531 I said, 'Can you tell Dr. Liddy that I'm going to be in his office at one o'clock.' So, I  
532 walked in there and he said, 'Well, Dr. Adams, I'm just in the process of writing a  
533 letter to inform you that we've decided to put all monoclonal antibody products in  
534 Class III, PMA,' and I'll tell you, I almost fell off my chair because that was the end of  
535 Hybritech. So, I walked out of there and called Ted, and I said, 'Ted, we've got a giant  
536 problem.' So, anyway, Ted got involved and we hired a Washington law firm, and  
537 Tom Hanaloff [?] from the law firm was the guy who set up the meeting for us, and  
538 we were able to go in at a pretty high level of the FDA and have this big meeting, and  
539 they decided to give us a chance to prove to them that these things could be  
540 approved on a 510K, but even in that meeting, they tried to hand us this letter. We  
541 were that far from... and Hanaloff pointed out to the guy who tried to hand us this  
542 letter at the meeting that, by their own procedures, they couldn't hand us this letter.  
543 It had to go from him to Document Control and be sent to the company. But we  
544 were that close. If those products had all been PMAs, then Abbott Laboratories  
545 would have rolled over Hybritech and everybody else, but as far as funny stories, I can  
546 you give a hundred Ted stories.

547 **END INTERVIEW**

**Recommended Citation:**

Adams, Thomas. Interview conducted by Mark Jones, August 4, 1997.  
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.