

LEVIN, MIDDLEBROOKS, MABIE,  
THOMAS, MAYES & MITCHELL, P.A.  
Attorneys at Law  
Post Office Box 12308  
316 S. Baylen Street  
Pensacola, FL 32501  
Telephone (904) 435-7000

2nd attempt

line error again  
3rd attempt

RETURN FAX NUMBER: (904) 435-7070

TELECOPY

TO : Eric Weinberg, Esq.  
c/o The Marriot  
(617) 494-0036

FROM : Michele Lamar  
(904) 435 - 7083

PAGE 1 OF : 28 20

DATE : 10/15/96

FILE # : 64376

MESSAGE : This is part 1 of a 2 part fax. When both parts arrive, please take these to Mr. Eric Weinberg, Esq.

Mr. Weinberg, I am having quite the time with these faxes. I am attempting to send you Wada. I can only assume you have received part 1 of the Mozen deposition. The machine has read "Paper Jam" at least 9 times and it doesn't look to be on my end. I called the hotel and they told me they have been receiving faxes and that they've already sent what was received up to the front desk and cannot tell me what the last pages were. Also, that they have received three faxes - I've only sent two. Whatever the case, I am going to try to fax Wada depo now and we can hope it goes through okay. I am very sorry for the inconvenience of deciphering this puzzle but hopefully it doesn't look as bad on your end as it's sounding on mine.

The front desk has been extremely helpful during this battle with technology.

Please let me know if there is any trouble. I am both upstairs (904) 435-7059 and downstairs (904) 435-7053 as today we are rushing to meet deadline for getting the claim forms out. Thanks.

IF YOU HAVE ANY PROBLEMS OR QUESTIONS WITH THIS TRANSMISSION, PLEASE CALL MARNIE AT (904) 435-7083.

THANK YOU.

\* \* \* \* \*

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MDL 986, 3/16/95

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Shohachi Wada, Ph.D.

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1 IN THE UNITED STATES DISTRICT COURT 2 NORTHERN DISTRICT OF ILLINOIS 3 EASTERN DIVISION 4 5 IN RE: : MDL - 986 6 FACTOR VIII OR IX CONCENTRATE : 7 BLOOD PRODUCTS LITIGATION : NO. 93 C 7452 8 9 10 Videotape deposition of SHOHACHI WADA, 11 Ph.D., taken at the law offices of O'CONNOR, COHN, 12 DILLON & BARR, 101 Howard Street, 5th Floor, San 13 Francisco, California, on Thursday, March 16, 1995, 14 at 9:05 a.m., before Rosemary Locklear, Registered 15 Professional Reporter, Certified Shorthand Reporter 16 (NJ), Certified Realtime Reporter and Notary Public, 17 pursuant to notice. 18 19 20 21 22 LOCKLEAR REPORTING SERVICE, INC. 23 1601 Market Street, Suite 2230 24 Philadelphia, PA 19103 (215) 587-0690 (800) 413-7880	1 APPEARANCES: (Continued) 2 3 O'KEILLY, CUNNINGHAM, MORTON & MANCINI 4 BY: SANDRA L. WRIGHT, ESQUIRE 5 109 North Hale Street 6 Wheaton, Illinois 60189-0845 7 Attorneys for the Defendant National 8 Hemophilia Foundation 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
1 APPEARANCES: 2 3 ALAN LAUTMAN, J.D., M.D. 4 Turtle Creek Centre, Suite 1000 5 3811 Turtle Creek Boulevard 6 Dallas, Texas 75219 7 and 8 SHRAGER, MCDAID, LOFTUS, FLUM & SPIVEY 9 BY: WAYNE R. SPIVEY, ESQUIRE 10 Two Commerce Square, 32nd Floor 11 2001 Market Street 12 Philadelphia, Pennsylvania 19103 13 Attorneys for the Plaintiffs 14 15 STOLEY & RUSTIN 16 BY: ERIC H. SUSSMAN, ESQUIRE 17 One First National Plaza 18 Chicago, Illinois 60603 19 Attorneys for the Defendants 20 Rhone-Poulenc Rozel, Inc., and Armour 21 Pharmaceutical Company, Inc. 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000	

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Shohachi Wada, Ph.D.

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1	IN THE UNITED STATES DISTRICT COURT NORTHERN DISTRICT OF ILLINOIS EASTERN DIVISION	1	APPEARANCES: (Continued)
2		2	
3		3	O'REILLY, CUNNINGHAM, NORTON & MARCINI
4		4	BY: SANDRA L. WRIGHT, ESQUIRE
5	IN RE: : MDL - 986	5	109 North Hale Street
6	FACTOR VIII OR IX CONCENTRATE : BLOOD PRODUCTS LITIGATION : NO. 93 C 7452	6	Wheaton, Illinois 60189-0846
7		7	Attorneys for the Defendant National
8		8	Hemophilia Foundation
9		9	
10	Videotape deposition of SHOHACHI WADA,	10	
11	Ph.D., taken at the law offices of O'CONNOR, COHN,	11	
12	DILLON & BARR, 101 Howard Street, 5th Floor, San	12	
13	Francisco, California, on Thursday, March 16, 1995,	13	
14	at 9:05 a.m., before Rosemary Locklear, Registered	14	
15	Professional Reporter, Certified Shorthand Reporter	15	
16	(NJ), Certified Realtime Reporter and Notary Public,	16	
17	pursuant to notice.	17	
18		18	
19		19	
20		20	
21		21	
22	LOCKLEAR REPORTING SERVICE, INC.	22	
23	1601 Market Street, Suite 2230	23	
24	Philadelphia, PA 19103	24	
	(215) 587-0690		
	(800) 413-7880		
Page 2		Page 4	
1	APPEARANCES:	1	I N D E X
2		2	WITNESS PAGE
3	ALAN LAUFMAN, J.D., M.D.	3	
4	Turtle Creek Centre, Suite 1000	4	SHOHACHI WADA, Ph.D.
5	3011 Turtle Creek Boulevard	5	
6	Dallas, Texas 75219	6	By Dr. Laufman ?
7	and	7	By Ms. Goins 110
8	SHRAGER, McDAID, LOFTUS, FLUM & SPIVAK	8	
9	BY: WAYNE R. SPIVAK, ESQUIRE	9	
10	Two Commerce Square, 32nd Floor	10	EXHIBITS
11	2001 Market Street	11	NUMBER DESCRIPTION PAGE
12	Philadelphia, Pennsylvania 19103	12	Wada-1 Three-page copy of document entitled
13	Attorneys for the Plaintiffs	13	"Supplemental Notice of Deposition" 11
14		14	Wada-2 Curriculum Vitae (to be supplied)
15	SIDLEY & AUSTIN	15	Wada-3 Three-page copy of document dated
16	BY: ERIC R. SUSSMAN, ESQUIRE	16	10/26/72 entitled "Reports of
17	One First National Plaza	17	Hepatitis Following Administration
18	Chicago, Illinois 60603	18	of Konyne Concentrate" 33
19	Attorneys for the Defendants	19	Wada-4 Two-page copy of article entitled
20	Rhone-Poulenc Rorer, Inc., and Armour	20	"Hepatitis After Konyne
21	Pharmaceutical Company, Inc.	21	Administration" 35
22		22	Wada-5 Two-page copy of article dated
23	O'CONNOR, COHN, DILLON & BARR	23	10/70 entitled "Hepatitis After
24	BY: SUSAN REIFEL GOINS, ESQUIRE	24	Konyne" 36
	CUNGAN BARR, ESQUIRE		Wada-6 One-page copy of article dated
	101 Howard Street, 5th Floor		7/31/72 entitled "Hepatitis and
	San Francisco, California 94105-1619		Cleaving-Factor Concentrates" 36
	Attorneys for the Defendant Miles, Inc.		Wada-7 One-page copy of letter dated
			5/2/72 to John C. Wagner, Sr.,
			from Byron E. Emery, MSP 000116
			40

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<p>1                   EXHIBITS (Continued)</p> <p>2       NUMBER           DESCRIPTION           PAGE</p> <p>3</p> <p>4       Wada-8   Multi-page copy of document entitled</p> <p>5               "Biochemical Research Department</p> <p>6               Quarterly Progress Report, April -</p> <p>7               June, 1972," MSD 000094-MSD 000099       84</p> <p>8       Wada-9   Multi-page copy of document entitled</p> <p>9               "Research Record Book No. 1360"       84</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>      Wada-10   Multi-page copy of document entitled</p> <p>                  "Research Record Book No. 1441,"</p> <p>                  MIL 016315-MIL 016414           101</p> <p>      ---</p>	<p>1       their confidential status applies to all of</p> <p>2       them.</p> <p>3               DR. LAUFMAN: Okay.</p> <p>4               MR. BARR: While we're on the record</p> <p>5       also, before we go further, I want to ask one</p> <p>6       question so I can find out something while</p> <p>7       the deposition is going on today: Yesterday</p> <p>8       during the deposition there were continued</p> <p>9       references to a telephone conversation with</p> <p>10      Judge Grady last week in which he laid down</p> <p>11      certain ground rules about the depositions.</p> <p>12              Who was on that phone call from Miles?</p> <p>13              MR. SPIVEY: Nobody. It was during a</p> <p>14      hearing on a Motion to Compel against Armour.</p> <p>15              MR. BARR: Okay. Thank you. Because I</p> <p>16      never heard about it.</p> <p>17              Do you know what --</p> <p>18              MR. SPIVEY: The only thing he said --</p> <p>19              MR. BARR: Do you know why Miles was</p> <p>20      not told about that phone call and --</p> <p>21              MR. SPIVEY: Yes; because it was a</p> <p>22      discovery -- just exactly like what occurred</p> <p>23      with the Miles Motions. That was a hearing</p> <p>24      only against Armour, it only concerned</p>
Page 6	Page 8
<p>1               MS. GOINS: Plaintiffs have indicated</p> <p>2       that this deposition is being taken to</p> <p>3       preserve it for trial and that it may be used</p> <p>4       for trial. They're obviously videotaping the</p> <p>5       deposition. And I want to note that Miles is</p> <p>6       not stipulating that merely because</p> <p>7       plaintiffs have noticed it to preserve it for</p> <p>8       trial, that it necessarily can be used in its</p> <p>9       entirety or that any particular portions can</p> <p>10      be used. That would be governed by Rule 32</p> <p>11      and any other applicable Federal Rules.</p> <p>12              In addition, we have produced some</p> <p>13      laboratory notebooks which we have designated</p> <p>14      confidential, pursuant to the Pretrial Order</p> <p>15      Number Two. We ask that those be maintained</p> <p>16      confidential and not be used for any purpose</p> <p>17      outside what was described in General Order</p> <p>18      Number Two.</p> <p>19              DR. LAUFMAN: The original notebook</p> <p>20      that you're identifying is Research Record</p> <p>21      Notebook 2451; is that correct?</p> <p>22              MS. GOINS: I have provided you today</p> <p>23      with that original notebook.</p> <p>24              My comments about the lab notebooks and</p>	<p>1       Armour, it only concerned a Motion against</p> <p>2       Armour.</p> <p>3               MR. BARR: Okay. Thank you.</p> <p>4       ---</p> <p>5               THE VIDEOTAPE SPECIALIST: We are now</p> <p>6       on the video record at 9:15 a.m.</p> <p>7               THE COURT REPORTER: This is the</p> <p>8       videotape deposition of Shohachi Wada, Ph.D.,</p> <p>9       taken by the plaintiffs in re. Factor VIII or</p> <p>10      IX Concentrate Blood Products Litigation, In</p> <p>11      The United States District Court, For The</p> <p>12      Northern District of Illinois, Eastern</p> <p>13      Division, MDL 986, Number 93 C 7452, held at</p> <p>14      the offices of O'Connor, Cohn, Dillon &amp; Barr,</p> <p>15      101 Howard Street, 5th Floor, San Francisco,</p> <p>16      California, on Thursday, March 16, 1995, at</p> <p>17      the time indicated on the video screen.</p> <p>18              My name is Rosemary Locklear, and I am</p> <p>19      from the firm of Locklear Reporting Service,</p> <p>20      Inc. The video specialist is Alex Laszlo, of</p> <p>21      Locklear Reporting Service, Inc.</p> <p>22              Counsel will now introduce themselves.</p> <p>23              DR. LAUFMAN: I'm Alan Laufman, counsel</p> <p>24      for plaintiffs.</p>



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1 MS. GOINS: Susan Reifel Goins, counsel  
 2 for Miles.  
 3 MR. BARR: Duncan Barr for Miles.  
 4 MS. WRIGHT: Sandra Wright, on behalf  
 5 of the National Hemophilia Foundation.  
 6 MR. RIZZO: Richard Rizzo for Baxter.  
 7 MR. SUSSMAN: Eric Sussman for the  
 8 defendant, Rhone-Poulenc Rorer and Armour  
 9 Pharmaceutical.  
 10 MR. SPIVEY: Wayne Spivey for the  
 11 plaintiffs.  
 12 ---  
 13 SHOHACHI WADA, Ph.D., having been duly  
 14 sworn, was examined and testified as follows:  
 15 BY MR. LAUFMAN:  
 16 Q. Would you state your name for the record,  
 17 sir.  
 18 MS. GOINS: State your name.  
 19 BY MR. LAUFMAN:  
 20 Q. Would you state your name for the record,  
 21 please.  
 22 A. My name is Shohachi Wada.  
 23 Q. It's Dr. Wada; is that correct?  
 24 A. Yes.

1 A. Yes.  
 2 Q. Dr. Wada, let me also tell you that if you  
 3 have trouble hearing me --  
 4 A. Yes.  
 5 Q. -- or you need me to speak up --  
 6 A. Yes.  
 7 Q. -- please don't hesitate to let me know.  
 8 A. Yes.  
 9 Q. Okay?  
 10 Dr. Wada, we're going to mark as our  
 11 first exhibit a Supplemental Notice of Deposition,  
 12 which will be Wada Exhibit Number One.  
 13 (Whereupon a three-page copy of  
 14 document entitled "Supplemental Notice of  
 15 Deposition" was marked "Exhibit Wada-1" for  
 16 identification.)  
 17 BY MR. LAUFMAN:  
 18 Q. Let me give you a moment to look at that.  
 19 Dr. Wada --  
 20 A. Yes.  
 21 Q. -- before we handed you Exhibit One, had you  
 22 seen that document before?  
 23 A. No.  
 24 Q. May I see it, please? May I have it back for

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1 Q. Dr. Wada, do you understand that my name is  
 2 Alan Laufman and that I am co-counsel with Mr. Spivey  
 3 in representing the plaintiffs in the lawsuit that  
 4 brings us here today? Do you understand that?  
 5 A. Yes.  
 6 Q. Have you ever given a deposition before?  
 7 A. No.  
 8 Q. Do you understand that during the course of  
 9 the deposition, I will be asking you questions --  
 10 A. Yes.  
 11 Q. -- and asking that you respond to my  
 12 questions?  
 13 A. Yes, sir.  
 14 Q. Dr. Wada, if I ask you anything that is not  
 15 clear to you --  
 16 A. Yes.  
 17 Q. -- anything that you would like me to  
 18 clarify --  
 19 A. Yes.  
 20 Q. -- will you please let me know?  
 21 A. Yes, I will.  
 22 Q. If you don't tell me that you need me to  
 23 clarify, then I won't know that you are  
 24 misunderstanding a question. Okay?

1 a moment?  
 2 A. All right.  
 3 Q. Thank you.  
 4 Dr. Wada --  
 5 A. Yes.  
 6 Q. -- did you understand that we were asking  
 7 that you bring certain materials with you to the  
 8 deposition today? Did you have that understanding?  
 9 A. Yes.  
 10 Q. And did you bring any documents which you  
 11 have in your possession that are described in  
 12 Paragraph One of our Exhibit Number One?  
 13 Please look at Paragraph One.  
 14 A. I have no documents, what say.  
 15 Q. Okay. You have no notes, then --  
 16 A. No.  
 17 Q. -- from your work?  
 18 A. When I left Cutter, I left everything there.  
 19 Q. All right.  
 20 Dr. Wada, do you have a document which  
 21 gives us your educational background, a CV?  
 22 A. No, I --  
 23 Q. Anything that states your education and  
 24 training?

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<p>1 A. No, I didn't bring.</p> <p>2 Q. All right. Do you have such a document at</p> <p>3 home that would state your -- where you went to</p> <p>4 school and publications, perhaps, that you authored?</p> <p>5 A. Yes, I do at home.</p> <p>6 Q. All right. Did anyone ask you to bring that</p> <p>7 today?</p> <p>8 A. No. No.</p> <p>9 Q. Would you be willing to provide that to your</p> <p>10 attorney so that we may attach that to your</p> <p>11 deposition, the listing of your publications and the</p> <p>12 Curriculum Vitae that you have?</p> <p>13 A. Yes.</p> <p>14 Q. You -- you would, please? You would do that?</p> <p>15 A. Yes.</p> <p>16 Q. Thank you.</p> <p>17 Very briefly, Dr. Wada, can you tell me</p> <p>18 where you went to school, starting, let's say, with</p> <p>19 your college and subsequent training?</p> <p>20 A. I went to college in Tokyo.</p> <p>21 Q. Okay.</p> <p>22 A. And I graduate from the University of Tokyo,</p> <p>23 1941.</p> <p>24 Q. All right. And what educational program did</p>	<p>1 one year was -- I was enrolled as adult special, and</p> <p>2 then I was -- I entered graduate school in 1952.</p> <p>3 Q. All right. Thank you.</p> <p>4 And then in 1952 you began the</p> <p>5 biochemistry graduate program?</p> <p>6 A. That's right. Yes.</p> <p>7 Q. How long did you remain at the University of</p> <p>8 Minnesota?</p> <p>9 A. Until 1957.</p> <p>10 Q. '57?</p> <p>11 A. Yes.</p> <p>12 Q. And did you earn a degree in 1957?</p> <p>13 A. That's right.</p> <p>14 Q. Was that a Ph.D.?</p> <p>15 A. Ph.D.</p> <p>16 Q. Did you have to write a thesis for your</p> <p>17 Ph.D.?</p> <p>18 A. Yes.</p> <p>19 Q. And do you recall the title or subject of</p> <p>20 your Ph.D. thesis?</p> <p>21 A. It's related to protein isolated from</p> <p>22 soybean.</p> <p>23 Q. All right.</p> <p>24 A. I couldn't remember the exact title.</p>
Page 14	Page 16
<p>1 you pursue there? What field?</p> <p>2 A. Agricultural chemistry.</p> <p>3 Q. Agricultural chemistry?</p> <p>4 A. Chemistry.</p> <p>5 Q. Okay. And after obtaining the degree at the</p> <p>6 University of Tokyo, did you later go through</p> <p>7 additional schooling?</p> <p>8 A. Yes. I went to the University of Minnesota.</p> <p>9 That was in 1951.</p> <p>10 Q. You started there in 1951?</p> <p>11 A. Yes.</p> <p>12 Q. And was that a doctoral program, Ph.D.</p> <p>13 program?</p> <p>14 A. Yes. I enter a graduate school.</p> <p>15 Q. In what department?</p> <p>16 A. Biochemistry.</p> <p>17 Q. Okay. You began, then, as a graduate student</p> <p>18 in biochemistry --</p> <p>19 A. That's right.</p> <p>20 Q. -- in 1951; is that right?</p> <p>21 A. Yes.</p> <p>22 Q. All right. And how long did you remain at</p> <p>23 the University of Minnesota?</p> <p>24 A. Oh, pardon me. To be more precise, the first</p>	<p>1 Q. That's very good.</p> <p>2 During your Ph.D. program --</p> <p>3 A. Yes.</p> <p>4 Q. -- then, did you specialize, in a sense, in</p> <p>5 protein biochemistry?</p> <p>6 A. That's right.</p> <p>7 Q. After you earned your Ph.D. in 1957, did you</p> <p>8 go through any additional schooling?</p> <p>9 A. No.</p> <p>10 Q. Did you do a post-doctoral year anywhere?</p> <p>11 A. No.</p> <p>12 Q. Tell me then what you did after earning your</p> <p>13 degree in 1957. Where did you go next?</p> <p>14 A. I stayed one year at the University of</p> <p>15 Minnesota. Yes. Oh, pardon me. To change my visa,</p> <p>16 I had to go to Canada and work for the Saskatchewan</p> <p>17 Department of Public Health for three month and then</p> <p>18 reenter to the United States --</p> <p>19 Q. All right.</p> <p>20 A. -- on a different visa.</p> <p>21 Q. When did you take your first job in the</p> <p>22 United States after the Ph.D. program?</p> <p>23 A. 1958, I think.</p> <p>24 Q. All right. And where did you go to work?</p>

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1 A. The Atherosclerosis Research Lab of Saint  
2 Barnabas Hospital in Minneapolis.  
3 Q. All right.  
4 A. After one year, I moved to research lab at  
5 Mount Sinai Hospital, which was nearby.  
6 Q. Okay. And what kind of work did you do at  
7 Mount Sinai?  
8 A. Mostly work related to heart disease.  
9 Q. So you were involved with heart disease,  
10 then, at Saint Barnabas and at Mount Sinai.  
11 A. That's right.  
12 Q. Okay. Where did you go after your work at  
13 Mount Sinai?  
14 A. Then I applied for a job to Cutter Lab. That  
15 was 1964.  
16 Q. Okay. You joined Cutter Laboratories then in  
17 1964?  
18 A. That's right. September 1964.  
19 Q. How long did you remain an employee at Cutter  
20 after joining them in '64?  
21 A. 19 and a half year.  
22 Q. Okay. So somewhere around 1983 did you  
23 retire?  
24 A. I retired 1984.

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1 Q. '84. Okay.  
2 I want to go through very briefly --  
3 A. Yes.  
4 Q. -- the type of work you did --  
5 A. Yes.  
6 Q. -- at Cutter --  
7 A. Yes.  
8 Q. -- after you joined them in 1964.  
9 As best you are able to recall --  
10 A. Yes.  
11 Q. -- what type of work did you do when you  
12 first began at Cutter?  
13 A. I started to work on coagulation factor IX,  
14 which at that time was called PTC, plasma  
15 thromboplastin component, PTC.  
16 Q. Did you work on factor IX or PTC --  
17 A. Factor IX.  
18 Q. -- did that lead to a patent that was issued  
19 in your name?  
20 A. That's right.  
21 Q. To make it simpler for us today, can we just  
22 refer to the PTC as factor IX?  
23 A. Okay.  
24 Q. And you and I will know that we're really

1 referring to PTC. Okay?  
2 A. Yes.  
3 Q. So if I say "factor IX," I mean the same  
4 thing as PTC.  
5 A. Yes. Same thing. That's right.  
6 Q. Thank you.  
7 Did you spend your first few years at  
8 Cutter then working only on factor IX or did you also  
9 work on other things those first few years?  
10 A. Only on factor IX.  
11 Q. Okay. Tell me what you recall working on  
12 after you were there for several years and began to  
13 work on other things. What were you also working  
14 on?  
15 A. After finished the development work for  
16 Konyne, I was assigned to coagulation assay  
17 laboratory. I was in charge of that laboratory.  
18 Q. And was that for factor VIII and factor IX  
19 assays?  
20 A. Both. Yes. Both factors.  
21 Q. Okay. When you were working on factor IX,  
22 Dr. Wada, who was your chief or your supervisor when  
23 you first were there the first few years doing the  
24 developmental work?

Page 20

1 A. Briefly, under Dr. Papenhagen --  
2 Q. Okay.  
3 A. -- and then under Duane Schroeder, Dr. Duane  
4 Schroeder.  
5 Q. Duane Schroeder.  
6 A. Yes.  
7 Q. Okay. When you were working on the assay  
8 project --  
9 A. Uh-huh.  
10 Q. -- do you recall who your chief was at that  
11 time?  
12 A. Duane Schroeder, and then --  
13 Q. Was it Dr. Mozen or Lundblad or --  
14 A. No, not -- the head of the Chemical Research  
15 Department. I forget. I think Ted Brown, I guess.  
16 Q. I'm sorry?  
17 A. Ted Brown.  
18 Q. Ted Brown?  
19 A. Yes. If I'm not mistaken.  
20 Q. When you were working on the coagulation  
21 assay --  
22 A. Yes.  
23 Q. -- research, was that given to you as a  
24 project for you to work all of your time on it --



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1 A. Yes.  
2 Q. -- or were you also doing other things?  
3 A. No. No. I was working only for development  
4 assay -- development of assay.  
5 Q. And did your work lead to the development of  
6 a successful assay for factor VIII?  
7 A. Yes.  
8 Q. Or was that --  
9 A. I finally accomplished -- I finally succeeded  
10 in establishing the assay, standard assay technique.  
11 Q. Okay. And that was a standard assay  
12 technique both for factor VIII and factor IX?  
13 A. That's right.  
14 Q. Thank you.  
15 After you completed that work on the  
16 assays, what type of work did you next do at Cutter?  
17 A. I worked in the Department of Blood  
18 Management and such work for platelets, blood  
19 platelets.  
20 Q. And what type of work were you or what type  
21 of research were you doing on platelets?  
22 A. Trying to preserve platelets as long as  
23 possible, and then I tried to -- separate white blood  
24 cells from platelets. And I developed a special

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1 plastic bag to separate most of white blood cells and  
2 obtained a patent.  
3 Q. All right. As best you recall, when were you  
4 doing that work on the platelets? Can you tell me  
5 about when that was?  
6 A. Are you saying year?  
7 Q. Yes, sir.  
8 A. I can't say exactly the year. I have no  
9 record. I think --  
10 Q. That's very understandable. Just give me  
11 your best recollection how many years.  
12 You began in 1964, so after how many  
13 years, approximately, did you begin the platelet  
14 work?  
15 A. That was already 1970.  
16 Q. Okay. Around 1970, then, you began the  
17 platelet work.  
18 A. That's right.  
19 Q. And for how many years did you concentrate on  
20 the platelet work?  
21 A. Until my retirement.  
22 Q. Oh, is that right?  
23 A. Yes.  
24 Q. For many years, then.

Page 23

1 A. Yes.  
2 Q. So from 1970 to 1984 was your primary area of  
3 research, then, at Cutter research on platelets?  
4 A. That's right.  
5 Q. If we look at the time frame from 1970 to  
6 1984, approximately 14 years, then, would you say  
7 that you spent as much as three-quarters of your time  
8 all together on platelets?  
9 A. Yes. More -- more than that, I think.  
10 Q. Okay. How much would you say?  
11 A. Almost entirely.  
12 Q. Okay.  
13 A. In those days, I had nothing to do with  
14 coagulation factors, factor VIII or factor IX.  
15 Q. Okay. When you say "those years," are you  
16 referring to 1970 to 1984?  
17 A. 1973 or '4, something, somewhere.  
18 Q. All right. Maybe I -- let me make sure I  
19 understand here.  
20 A. Yes.  
21 Q. I understand, Dr. Wada, that approximately in  
22 1970 you began to do your work on platelets.  
23 A. That's right.  
24 Q. And that for the remainder of the years you

Page 24

1 were at Cutter, from 1970 to 1984, most of your time  
2 was spent working on platelets.  
3 A. That's right.  
4 Q. So for 14 years you were using your  
5 education, training and background concentrating  
6 above all on platelet research.  
7 A. Yes.  
8 Q. Right?  
9 A. Yes.  
10 Q. But during those years, you would  
11 occasionally do work on other things.  
12 A. Yes.  
13 Q. Is that right?  
14 A. Yes.  
15 Q. But that was only -- I'm sorry.  
16 A. Excuse me. Before starting platelet work, I  
17 was -- when I was still in the Biochemistry  
18 Department, I worked for development coagulation  
19 product, which at that time was called fibrinogen --  
20 factor VIII inhibitor bypassing activity.  
21 Q. All right.  
22 A. And I developed a method of isolating that.  
23 Q. All right. My understanding, then, Dr. Wada,  
24 is that from the years 1970 to 1984 you did



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1 occasionally work on things like the factor VIII  
 2 bypass --  
 3 A. Yes.  
 4 Q. -- inhibitor and fibrinogen, perhaps. There  
 5 were occasional research --  
 6 A. No, I didn't work for fibrinogen.  
 7 Q. Okay. I may have mis -- what -- did you say  
 8 something about fibrinogen or not?  
 9 A. Fibrinogen, no.  
 10 Q. Okay. Well, in -- in the years 1970, then,  
 11 to 1984, most of the time was spent on platelet  
 12 research?  
 13 A. Platelet. That's right.  
 14 Q. But occasional projects were undertaken, such  
 15 as the factor VIII bypass --  
 16 A. That's right.  
 17 Q. -- material you mentioned. Okay.  
 18 I want you to know, Dr. Wada, that I  
 19 only ask for your best recollection. I know that you  
 20 can't be exact in remembering exactly when things  
 21 occurred, and I appreciate your -- your cooperation  
 22 in trying --  
 23 A. Yes.  
 24 Q. -- to give me your best recollection.

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1 Dr. Wada, did you review any materials  
 2 before coming to this deposition today? Did you look  
 3 at anything, any -- any lab notebooks or materials?  
 4 A. Yes, I -- yes, I went over part of my  
 5 notebook.  
 6 Q. Okay. Did you look at one notebook or more  
 7 than one?  
 8 A. More than one.  
 9 Q. Was that today or before today?  
 10 A. Before today.  
 11 Q. Can you give me an idea of how much time you  
 12 spent looking at your notebooks?  
 13 A. At most, one hour.  
 14 Q. Okay.  
 15 A. Less than one hour.  
 16 Q. And did you look at anything beside  
 17 notebooks?  
 18 A. Nothing.  
 19 Q. Do you remember the years covered by the  
 20 notebooks you looked at, what years they spanned?  
 21 A. Yes. They relate to 1960s and early 1970.  
 22 Q. Starting in the '67 time frame?  
 23 A. Yes.  
 24 Q. And running how late?

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1 Did you see any notebooks from the  
 2 1980s?  
 3 A. No.  
 4 Q. Okay. Just the '70s and the late '60s?  
 5 A. Yes.  
 6 Q. In the early '70s, Dr. Wada, did you have  
 7 contact with a man named Frank Johnson at Cutter? Do  
 8 you remember a man named Frank Johnson?  
 9 A. Frank Johnson.  
 10 Q. Yes, sir.  
 11 A. Oh, yes. He was the director of research  
 12 during that time at Cutter.  
 13 Q. Okay. And as director of research at Cutter,  
 14 then, how often did you have any contact with Dr.  
 15 Johnson?  
 16 A. Oh, once a week or something.  
 17 Q. Did you have contact with him in meetings  
 18 or --  
 19 A. Meetings.  
 20 Q. All right. So just to take an example, once  
 21 you began to specialize in work on platelets, you  
 22 would be doing your research, but occasionally there  
 23 would be meetings with people like Dr. Johnson; is  
 24 that right?

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1 A. Oh, Dr. Johnson passed away long before  
 2 then. Dr. Johnson passed away.  
 3 Q. All right.  
 4 A. He died before I started to work platelets.  
 5 Q. Okay.  
 6 A. Long before that.  
 7 Q. All right. By the same token, then, while  
 8 you were doing your research in the early '70s at  
 9 Cutter, you would on occasion, I understand -- I take  
 10 it you would on occasion have meetings with Dr.  
 11 Schroeder.  
 12 A. Yes.  
 13 Q. And the same would be true --  
 14 A. Yes. After he was directing my research  
 15 work.  
 16 Q. Dr. Schroeder?  
 17 A. Yes.  
 18 Q. Did you also have contact with Dr. Mozen?  
 19 A. Oh, yes. He was above Dr. Mozen -- Dr.  
 20 Schroeder.  
 21 Q. All right.  
 22 A. He was research director.  
 23 Q. So just to take it, the example of the early  
 24 1970s, your immediate research director was Dr.

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1 Schroeder.  
 2 A. Yes.  
 3 Q. And the man above Dr. Schroeder was Dr.  
 4 Mozen.  
 5 A. Mozen. That's right.  
 6 Q. And at some earlier point, Dr. Johnson in the  
 7 '60s --  
 8 A. Yes.  
 9 Q. -- was at Cutter; is that right?  
 10 A. Yes.  
 11 Q. Did you also, Dr. Wada, have contact over the  
 12 years with a Dr. John Lundblad?  
 13 A. Yes.  
 14 Q. And in what way did you have contact with Dr.  
 15 Lundblad?  
 16 A. I -- however, I was in the basic research  
 17 section and he was in charge of developmental  
 18 section.  
 19 Q. Okay.  
 20 A. So occasional contact.  
 21 Q. Dr. Wada, I want to ask you to focus with me  
 22 on the years 1970 to 1972.  
 23 A. Oh.  
 24 Q. And for some time now I'm going to ask

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1 questions and I will be asking them with reference to  
 2 the years 1970 to 1972.  
 3 A. Yes.  
 4 Q. Okay?  
 5 A. Yes.  
 6 Q. And let me mention perhaps as a point of  
 7 reference that our understanding is that the factor  
 8 IX product sold by Cutter called Konyne --  
 9 A. Yes.  
 10 Q. -- was licensed in 1969.  
 11 A. Yes.  
 12 Q. Okay. Just as a point of reference.  
 13 A. Yes.  
 14 Q. Doctor, in the period 1970 to '72, were you  
 15 aware of the fact that the plasma that was being used  
 16 to manufacture factor IX --  
 17 A. Yes.  
 18 Q. -- at Cutter carried a risk of transmitting  
 19 hepatitis virus?  
 20 A. Yes, I was aware.  
 21 Q. All right. Also, in those years, Doctor,  
 22 were you aware that the plasma used to manufacture  
 23 Konyne --  
 24 A. Yes.

1 Q. -- was pooled from many different donors?  
 2 A. Yes.  
 3 Q. In that period, 1970 to '72, Dr. Wada, were  
 4 you also aware that in addition to a risk of  
 5 transmitting hepatitis virus, there was the potential  
 6 risk that the plasma from these many donors might  
 7 transmit other viruses? Were you aware of that?  
 8 A. No, I -- I wasn't aware.  
 9 Q. Are you familiar with cytomegalovirus, CMV?  
 10 A. Yes, I've heard the name.  
 11 Q. Do you recall any concern at Cutter that the  
 12 plasma they were using might potentially transmit  
 13 CMV?  
 14 A. I didn't know that.  
 15 Q. Okay. Were you aware in 19 -- in the 1970  
 16 to '72 time frame that the plasma used by Cutter to  
 17 manufacture factor IX --  
 18 A. Yes.  
 19 Q. -- was, in part, collected from prisoners in  
 20 prisons? Were you aware of that?  
 21 A. Yes, I knew that.  
 22 Q. In other words, from penitentiaries where  
 23 individuals were incarcerated plasma was drawn and,  
 24 in part, plasma from those sources was used to

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1 manufacture Konyne.  
 2 A. Yes.  
 3 Q. You knew that.  
 4 A. Yes.  
 5 Q. Did you have or, rather, did you take any  
 6 precautions to protect yourself when you worked with  
 7 plasma, to protect yourself against being infected  
 8 with hepatitis virus?  
 9 A. Yes. Periodically, I received a  
 10 gammaglobulin injection at Cutter.  
 11 Q. Okay. About how often did they give you  
 12 that, if you remember?  
 13 A. I think it was once in every two to three  
 14 months or something. I don't remember the exact  
 15 interval.  
 16 DR. LAUFMAN: Okay. Let's mark this,  
 17 if we could, as Plaintiff's Exhibit Number  
 18 Two.  
 19 MR. SPIVEY: Let's go off the video  
 20 record for a minute.  
 21 THE VIDEO SPECIALIST: We are off the  
 22 video record.  
 23 MR. SPIVEY: Why don't we save Exhibit  
 24 Two for the CV, mark this as Exhibit Three.



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1 Is that all right?  
 2 MR. LAUFMAN: Yes, that's a good idea.  
 3 (Whereupon a three-page copy of  
 4 document dated 10/26/72 entitled "Reports of  
 5 Hepatitis Following Administration of Konyne  
 6 Concentrate" was marked "Exhibit Wada-3" for  
 7 identification.)

8 THE VIDEO SPECIALIST: We are back on  
 9 the video record.

10 DR. LAUFMAN: All right. Let the  
 11 record reflect that we will mark as  
 12 Plaintiff's Exhibit Number Two the CV which  
 13 Dr. Wada is kind enough to provide us after  
 14 the deposition, and we're marking as  
 15 Plaintiff's Exhibit Three a document which  
 16 has a date of 10/26/1972 and a  
 17 title, "Reports of Hepatitis Following  
 18 Administration of Konyne Concentrate."

19 BY DR. LAUFMAN:

20 Q. Dr. Wada, going back to that period, 1970  
 21 to '72, were you aware that your employer, Cutter,  
 22 was receiving periodic reports of patients taking  
 23 Konyne and contracting hepatitis, that the company  
 24 was receiving the reports, for example, you see in

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1 this exhibit? Did you know that?  
 2 A. No, I --  
 3 Q. Doctor, in the period 1970 to '72, were you  
 4 aware of the fact that on certain occasions there  
 5 were reports of patients receiving Konyne --  
 6 A. Yes.  
 7 Q. -- developing hepatitis and dying? Were you  
 8 aware of that?  
 9 A. Yes.  
 10 Q. So my understanding, then, would be, Dr.  
 11 Wada, that as an employee of Cutter at that time  
 12 working with plasma, you understood that there were  
 13 risks associated with the plasma and that there were  
 14 reports in particular of patients developing  
 15 hepatitis --

16 A. Yes.

17 Q. -- in association with Konyne --

18 A. Yes.

19 Q. -- and on occasion, deaths occurring?

20 A. Yes. However, I was understanding that was a  
 21 very rare occasion.

22 Q. Okay. Doctor, again sticking with the 1970  
 23 to '72 time frame --

24 A. Yes.

1 Q. -- understanding, as I do, that you were a  
 2 research scientist, were you aware of the fact that  
 3 there were reports in the medical literature, in  
 4 medical journals --

5 A. Yes.

6 Q. -- of cases of hepatitis occurring in  
 7 association with Konyne?

8 A. Yes.

9 Q. Did you know that?

10 A. Yes.

11 DR. LAUFMAN: Let's mark as Plaintiff's  
 12 Exhibit Four, if we may --

13 (Whereupon a two-page copy of article  
 14 entitled "Hepatitis After Konyne  
 15 Administration" was marked "Exhibit Wada-4"  
 16 for identification.)

17 DR. LAUFMAN: We're marking as  
 18 Plaintiff's Exhibit Number Four  
 19 correspondence published in the May 6th,  
 20 1971, "New England Journal," in particular  
 21 the letter titled "Hepatitis After Konyne  
 22 Administration."

23 And let us also please mark as  
 24 Plaintiff's Exhibit Number Five a letter

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1 published in the October 1970 journal "Annals  
 2 of Internal Medicine." The letter is  
 3 titled "Hepatitis After Konyne."

4 (Whereupon a two-page copy of article  
 5 dated 10/70 entitled "Hepatitis After Konyne"  
 6 marked "Exhibit Wada-5" for identification.)

7 DR. LAUFMAN: Counsel, perhaps it would  
 8 be a good idea if we -- I certainly want Dr.  
 9 Wada to have a chance to look at this.

10 Could we agree to have the videotape  
 11 turned off until he's ready to respond to  
 12 further questions; in other words, rather  
 13 than running it while he's looking at the  
 14 articles?

15 MS. GOINS: Sure.

16 THE VIDEO SPECIALIST: We are off the  
 17 video record at 9:50 a.m.

18 (Discussion off the record.)

19 (Whereupon a one-page copy of article  
 20 dated 7/31/72 entitled "Hepatitis and  
 21 Clotting-Factor Concentrates" was marked  
 22 "Exhibit Wada-6" for identification.)

23 THE VIDEO SPECIALIST: We are back on  
 24 the video record at 9:52 a.m.

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1 BY DR. LAUFMAN:

2 Q. Dr. Wada, as you see, we have now marked  
3 Exhibits Four, Five and Six. I've already identified  
4 Exhibits Four and Five. Let me identify that Exhibit  
5 Six is a letter to the editor published in "JAMA."  
6 "Journal of the AMA," July 31, 1972,  
7 titled "Hepatitis and Clotting-Factor Concentrates."

8 Doctor, if we may begin with Exhibit  
9 Six, if you would look at the last paragraph of the  
10 letter titled "Hepatitis and Clotting-Factor  
11 Concentrates," do you see that the authors state, "We  
12 conclude that older children and adults who have had  
13 little exposure to blood products are at a high risk  
14 of developing clinical hepatitis after introduction  
15 of clotting-factor concentrates"?

16 A. I don't remember reading this article.

17 Q. Okay.

18 MS. GOINS: Listen to his question.

19 BY DR. LAUFMAN:

20 Q. Dr. Wada, earlier I asked you if you were  
21 aware in the early '70s, 1970 to '72, if there were  
22 reports of Konyne-associated hepatitis in the medical  
23 literature.

24 A. Yes.

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1 Q. And I've now given you three examples,  
2 Exhibits Four, Five and Six.

3 A. Yes.

4 Q. Do you recall being aware of these particular  
5 reports, the three that you have in front of you?

6 A. Yes, I was. I heard.

7 Q. All right. Now, in Exhibit Six you see there  
8 is -- there is mention of a high risk of developing  
9 clinical hepatitis after introduction of  
10 clotting-factor concentrates.

11 Do you see that term, "high risk," in  
12 the -- in the last paragraph?

13 My question for you, Dr. Wada --

14 A. Yes.

15 Q. -- is just this: When you were working at  
16 Cutter and you yourself were exposed to the plasma,  
17 were you aware that it carried a high risk of  
18 transmitting the hepatitis virus?

19 A. No. I didn't think it was very high.

20 Q. All right. What information were you being  
21 given at that time in the 1970, '71, '72 time frame  
22 regarding the risk that hepatitis was being  
23 transmitted by the factor IX or factor VIII? What  
24 information?

1 MS. GOINS: Object to the form of the  
2 question. That's very broad.

3 You may answer it, if you can.

4 BY DR. LAUFMAN:

5 Q. Just your best recollection, Doctor, as to  
6 what your understanding was, based on the information  
7 you were receiving at -- in those early years of the  
8 1970s.

9 Was it that there was only a very low  
10 risk or that there was a high risk?

11 A. Yes. I was under the understanding of a very  
12 low risk.

13 Q. Okay.

14 A. I always understood that the benefit obtained  
15 by using protein factor far outweighs the danger of  
16 acquiring hepatitis.

17 Q. In the 1970, '71, '72 time period, Doctor,  
18 when you were working at Cutter, were you aware of  
19 the fact that some of the plasma that was being used  
20 to manufacture Konyne was being brought into the  
21 United States from countries like Haiti? Did you  
22 know that?

23 A. No.

24 MS. GOINS: Object to the form of the

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1 question.

2 DR. LAUFMAN: Could we mark as the next  
3 plaintiff's exhibit -- is it Six? Seven?

4 (Whereupon a one-page copy of letter  
5 dated 5/2/72 to John C. Wagner, Sc.D., from  
6 Byron E. Emery was marked "Exhibit Wada-7"  
7 for identification.)

8 DR. LAUFMAN: Could you share these?  
9 We can search for some more.

10 BY DR. LAUFMAN:

11 Q. Dr. Wada --

12 A. Yes.

13 Q. -- in the 1970 to '72 time period --

14 A. Yes.

15 Q. -- were you aware that plasma coming from  
16 Haiti was used in the manufacture of Konyne by  
17 Cutter?

18 A. I was not aware of that.

19 Q. All right. Now, you have before you an  
20 exhibit that has been marked as Plaintiff's Exhibit  
21 Number Seven.

22 Have you had a chance to look at that?

23 A. Yes.

24 Q. In addition to the country Haiti --



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1 A. Yes.  
 2 Q. -- which is reflected on that document marked  
 3 as Exhibit Seven --  
 4 A. Uh-huh.  
 5 Q. -- did you know that plasma was coming in  
 6 from countries other than Haiti and used for the  
 7 manufacture of Konyne?  
 8 MS. GOINS: I object to the form of  
 9 that question. It misstates what's on this  
 10 document.  
 11 DR. LAUFMAN: All right. I'll restate  
 12 the question.  
 13 BY DR. LAUFMAN:  
 14 Q. In addition to Haiti, Doctor, in the 1970  
 15 to '72 time period, were you aware that plasma from  
 16 countries other than Haiti was being used for the  
 17 manufacture of Konyne?  
 18 A. I --  
 19 MS. GOINS: Same objection.  
 20 Go ahead.  
 21 THE WITNESS: I was absolutely not  
 22 aware of that.  
 23 DR. LAUFMAN: All right.  
 24

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1 BY DR. LAUFMAN:  
 2 Q. Where did you think the plasma was coming  
 3 from that was being used for the manufacture of  
 4 Konyne in the 1970 to '72 time period?  
 5 A. Always in the United States.  
 6 Q. Okay. Now, are you familiar with the term  
 7 "skid row"?  
 8 A. Yes.  
 9 Q. Okay. In inner cities, downtown areas in  
 10 different cities, there are sometimes places people  
 11 refer to as a skid row area.  
 12 A. Yes.  
 13 Q. And you're familiar with that term.  
 14 A. Yes.  
 15 Q. In the 1970 to '72 time period, were you  
 16 aware that there were plasma centers in skid row  
 17 areas providing plasma used for the manufacture of  
 18 Konyne by Cutter?  
 19 MS. GOINS: I object to the form.  
 20 BY DR. LAUFMAN:  
 21 Q. Were you aware of that?  
 22 A. I didn't know that.  
 23 Q. Doctor, you're familiar with the term "IV  
 24 drug abuser."

1 A. Yes.  
 2 Q. Someone who is a drug abuser and injects  
 3 drugs into their veins.  
 4 A. Yes.  
 5 Q. In the 1970 to '72 time period, were you  
 6 aware of any reports in the medical literature that  
 7 IV drug abusers were often able to sell their plasma  
 8 if they lied about their drug addiction?  
 9 A. I didn't know that.  
 10 Q. When you were working at Cutter in the early  
 11 1970s, you've told us you thought there was only a  
 12 low risk of transmitting hepatitis virus.  
 13 A. Yes.  
 14 Q. Is that right?  
 15 A. Yes.  
 16 Q. And that belief or, rather, you held that  
 17 belief but you held it without knowing that plasma  
 18 was coming in from outside the country; right?  
 19 A. That's right.  
 20 MS. GOINS: Objection; argumentative,  
 21 and I think you've mischaracterized what he  
 22 testified to. You've tried to string  
 23 together several statements that he made  
 24 previously.

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1 BY DR. LAUFMAN:  
 2 Q. Dr. Wada, did you ever visit a plasma center  
 3 where paid donors sold their plasma?  
 4 A. No, I have not.  
 5 Q. Doctor, let's turn now to the subject of your  
 6 research in the early '70s or return to that subject.  
 7 Are you familiar with the term "bench  
 8 science" or "bench scientist"?  
 9 A. Yes.  
 10 Q. Were you a bench scientist --  
 11 A. Bench scientist.  
 12 Q. -- in those days?  
 13 A. Yes.  
 14 Q. Did you spend all of your time in bench  
 15 science or were you --  
 16 A. Yes. Almost 100 percent.  
 17 Q. Okay. Now, as a bench scientist at Cutter in  
 18 the early 1970s -- we'll stick with that time  
 19 period --  
 20 A. Yes.  
 21 Q. -- were you free to work on anything you  
 22 wanted to work on or were you, in effect, required to  
 23 work on projects that were approved by your  
 24 superiors?

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1 A. No. I had no -- almost no freedom to work --  
 2 Q. Okay.  
 3 A. -- on projects outside.  
 4 Q. And please explain that. How is it that your  
 5 assignments were given to you?  
 6 A. I beg your pardon. Could you repeat?  
 7 Q. Yes. Okay. Well, why is it that you say you  
 8 had almost no freedom to select the research  
 9 assignments you had?  
 10 A. I should say almost no time to spend for work  
 11 outside of my assignment.  
 12 Q. Okay. Now, who determined your assignments?  
 13 A. From time to time it differed, but most of  
 14 the time, Duane Schroeder --  
 15 Q. All right.  
 16 A. -- and Milt Mozen.  
 17 Q. Milt Mozen and Duane Schroeder determined  
 18 your assignments.  
 19 A. That's right.  
 20 Q. And were you expected to work on the  
 21 assignments they gave you?  
 22 A. That's right.  
 23 Q. If you had been completely free to work on  
 24 anything, is it likely you might have selected other

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1 projects?  
 2 MS. GOINS: Calls for speculation.  
 3 DR. LAUFMAN: I'll tell you what,  
 4 Doctor: Let me withdraw that question.  
 5 BY DR. LAUFMAN:  
 6 Q. You were working as a research bench  
 7 scientist at Cutter in the early 1970s, and the  
 8 assignments you were given by Dr. Schroeder --  
 9 A. Yes.  
 10 Q. -- and Dr. Mozen.  
 11 A. Yes.  
 12 Q. Did they determine what you worked on?  
 13 A. Yes.  
 14 Q. When you were given an assignment by Dr.  
 15 Schroeder or Dr. Mozen to do an experiment, was the  
 16 design of the experiment determined by Dr. Schroeder  
 17 or Dr. Mozen?  
 18 A. They outlined the research and I had to  
 19 determine a detailed experimental procedure by  
 20 myself.  
 21 Q. Okay. If I'm understanding you, then, Dr.  
 22 Mozen or Dr. Schroeder would communicate a research  
 23 assignment to you and they would outline to you the  
 24 approach they wished you to take; is that right?

1 A. That's right. That's right.  
 2 Q. And then they expected you to work out the  
 3 details --  
 4 A. Uh-huh.  
 5 Q. -- to comply with the outline --  
 6 A. That's right.  
 7 Q. -- they had given you; is that right?  
 8 A. That's right.  
 9 Q. Is Dr. Mozen, to your knowledge, a protein  
 10 biochemist?  
 11 A. Yes.  
 12 Q. And how about Dr. Schroeder?  
 13 A. I would say he was also a protein chemist.  
 14 Q. Okay. Now, when you were given an assignment  
 15 and you were provided with the outline --  
 16 A. Yes.  
 17 Q. -- or the approach to take, were you given an  
 18 idea of how much time you were supposed to take to do  
 19 the assignment?  
 20 A. Yes.  
 21 Q. And as research scientist, as you were  
 22 working out the details, then, I take it, you had to  
 23 plan to do the experiment within the time frame --  
 24 A. That's correct.

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1 Q. -- they had asked you to follow; right?  
 2 A. Yes.  
 3 Q. And that time frame, then, might limit the  
 4 extent of your research.  
 5 A. Yes.  
 6 Q. By the same token, Doctor, when you were  
 7 given out assignments or research as a bench  
 8 scientist, were the resources that you were to be  
 9 provided --  
 10 A. Yes.  
 11 Q. -- determined by your supervisors?  
 12 Is that right?  
 13 A. Yes.  
 14 Q. And is it true, sir, that the details, then,  
 15 of the research that you did would to some extent be  
 16 dictated by the resources that were being allocated  
 17 for the research?  
 18 A. Yes.  
 19 Q. If something had to be done with fewer  
 20 resources and in less time, then you would have to  
 21 design the details accordingly; right?  
 22 A. That's right.  
 23 Q. Doctor, in the early '70s, did you  
 24 customarily review any journals in your field of

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1 interest that you could identify for me by name?  
 2 A. Yes. From time to time, I researched the  
 3 library.  
 4 Q. Okay.  
 5 A. And I went through most biochemical and  
 6 clinical journals.  
 7 Q. Clinical too?  
 8 A. Clinical journals.  
 9 Q. Do you -- can -- can you help me? What are  
 10 the journals of biochemistry that you would have  
 11 occasionally looked at?  
 12 A. "Journal of Biochemistry," "Journal of  
 13 Bio" --  
 14 Q. Journal? Okay. "Journal of Biochemistry."  
 15 Any others you happen to remember by  
 16 name?  
 17 A. "Biochemica," "Biochemica Acta."  
 18 Q. Okay. Biochemica is B-I-O-C-H-E-M-I-C-A.  
 19 A. Yes.  
 20 Q. And Biochemica Acta, spelled the same but  
 21 A-C-T-A; is that right?  
 22 A. Yes.  
 23 Q. Okay. Any others you remember?  
 24 A. There are many, many journals.

1 Q. What do you consider, from your experience of  
 2 many years, to be the leading journals in  
 3 biochemistry? Are they the ones you've already named  
 4 or any others?  
 5 A. Oh, "Clinical Chemistry."  
 6 Q. "Clinical Chemistry"?  
 7 A. Yes. And "New England Journal of Medicine."  
 8 Q. Okay.  
 9 A. And "JAMA," "Journal of the American Medical  
 10 Association."  
 11 Q. Okay. By the same token, you were a  
 12 specialist in protein biochemistry --  
 13 A. Yes.  
 14 Q. -- going back to your graduate school days.  
 15 I understand that.  
 16 In the field of protein biochemistry,  
 17 who do you regard to be the authorities in that field  
 18 in the 1960s and 1970s? Are there any names of  
 19 authors of works that you can identify as authorities  
 20 in the field, maybe textbooks that were authored by  
 21 these people?  
 22 A. I can't recall. There are many.  
 23 Q. Okay. Who do -- who do you regard the  
 24 leading biochemist in the country in the field of

1 protein chemistry to have been in, let's say, the  
 2 late '60s, early '70s, in that time frame?  
 3 MS. GOINS: I'm going to object to the  
 4 form to the extent you're linking a fairly  
 5 long time frame. I know you're doing it for  
 6 ease of questioning, and I'd like a  
 7 continuing objection when you use terms like  
 8 '60s, '70s.  
 9 DR. LAUFMAN: I said late '60s and  
 10 early '70s.  
 11 Is that your objection?  
 12 MS. GOINS: Yes.  
 13 DR. LAUFMAN: Okay.  
 14 THE WITNESS: There are many research  
 15 workers in that field, and I just can't  
 16 recall --  
 17 DR. LAUFMAN: Okay.  
 18 THE WITNESS: -- each name.  
 19 DR. LAUFMAN: I appreciate that.  
 20 That's okay.  
 21 BY DR. LAUFMAN:  
 22 Q. You've mentioned that you -- on occasion you  
 23 would go to the library.  
 24 A. Yes.

1 Q. And would you on occasion go to the library  
 2 to inform yourself of information related to your  
 3 research?  
 4 A. That's right.  
 5 Q. And did you sometimes do that to assist you  
 6 in working out the details of research that you were  
 7 planning?  
 8 A. Yes.  
 9 Q. Did you also, though, take advantage of  
 10 access to, say, Dr. Mozen and Dr. Schroeder to  
 11 sometimes discuss protein issues with those two  
 12 individuals?  
 13 A. Yes. Once in a while, yes.  
 14 Q. Did they make themselves available to you if  
 15 you wanted to discuss a problem in protein  
 16 biochemistry with them?  
 17 A. Yes.  
 18 Q. When the experiment -- well, I'm going to use  
 19 the term "experiment design."  
 20 A. Yes.  
 21 Q. And I just mean the -- the plan for the  
 22 experiment. I'm going to refer to that as the design  
 23 of the experiment. Okay?  
 24 A. (Witness nods head.)

1 Q. When the experiments you worked on were being  
2 designed initially by Dr. Schroeder and Dr. Mozen, do  
3 you think it was important to be familiar with  
4 current information on the subject that was being  
5 researched?

6 MS. GOINS: Object to the form.

7 THE WITNESS: I can't understand your  
8 question.

9 DR. LAUFMAN: All right.

10 BY DR. LAUFMAN:

11 Q. If you're doing an experiment, there is a  
12 subject that is being researched; right?

13 A. Yes.

14 Q. Whether it's factor VIII or factor IX or an  
15 assay, there's something that is being investigated;  
16 right?

17 A. Yes.

18 Q. And there is a point where the experimental  
19 design is being worked out --

20 A. Yes.

21 Q. -- to accomplish the investigation; right?

22 A. Yes.

23 Q. Now, when you're in the time frame of  
24 designing the experiment --

1 of the art?"

2 A. Yes.

3 Q. For example, when you obtained the patent  
4 that you got --

5 A. Yes.

6 Q. -- I think on PTC --

7 A. Yes.

8 Q. -- was it -- didn't that patent use the  
9 term "state of the art," that there was an area that  
10 would have to report on the state of the art?

11 A. I don't remember whether that term was used.

12 Q. Okay. When I use the term "state of the  
13 art," I just mean the state of current learning.

14 A. Uh-huh.

15 Q. The information currently available on a  
16 given state -- on a given subject --

17 A. Yes.

18 Q. -- I'll refer to as the state of the art;  
19 right?

20 A. Yes.

21 Q. In that sense, then, Doctor, when you were  
22 involved in implementing or carrying out an  
23 experiment, was it your objective to have a good  
24 understanding of the state of the art on the subject

1 A. Yes.

2 Q. -- it's important, isn't it, to become  
3 familiar with current information on the subject;  
4 right?

5 A. Yes.

6 Q. That's just basic to work as a research  
7 biochemist, to be familiar with the current  
8 information on the subjects you're investigating;  
9 right?

10 A. Exactly.

11 Q. And, if necessary, that means you should go  
12 to the library and evaluate what is known on the  
13 subject you're investigating; right?

14 A. Yes. That's right.

15 Q. Were you provided with any assistants at  
16 Cutter who could go to the library and find  
17 literature for you or did you have to do that work  
18 yourself?

19 A. Oh, Cutter has a very good library, and  
20 whenever some journal or book which are not available  
21 to Cutter, librarian obtained herself, mostly from  
22 U.C. Medical School or Stanford, so I didn't have to  
23 go by myself.

24 Q. Okay. Are you familiar with the term "state

1 you were researching?

2 A. Yes. That's right.

3 Q. And was it your expectation that Dr. Mozen  
4 and Dr. Schroeder would also have a good  
5 understanding of the state of the art?

6 A. Yes. Yes.

7 Q. Between scientists, when you're doing  
8 research, investigating something, it should start  
9 with a good understanding of the state of the art;  
10 right?

11 A. Yes.

12 Q. Is it true, Doctor, that on some occasions  
13 you would rely on Dr. Mozen or Dr. Schroeder to  
14 provide you with information on the state of the art  
15 of a particular subject that you were working on?

16 A. Yes.

17 Q. Your time was devoted to research and other  
18 responsibilities --

19 A. Yes.

20 Q. -- so on occasion, then, if Dr. Schroeder or  
21 Dr. Mozen had information to share with you on the  
22 state of the art --

23 A. Yes.

24 Q. -- you would rely on them; right?



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1 A. That's right.  
 2 Q. Doctor, as you look at your career in science  
 3 and research, would you say that in many respects it  
 4 would be true that the success of your research  
 5 depended in large part on being familiar with the  
 6 current state of the art on the subject you were  
 7 investigating?  
 8 A. Yes.  
 9 Q. In many respects, the planning of the  
 10 research is as important as the actual carrying out  
 11 of the research --  
 12 A. Exactly.  
 13 Q. -- is that true?  
 14 A. Yes.  
 15 Q. And in many respects, the planning of the  
 16 research depends a great deal on understanding what  
 17 is already known.  
 18 A. That's right.  
 19 Q. You don't want to do again that which is in  
 20 conflict with current learning; right?  
 21 A. Yes.  
 22 Q. And you certainly want to take advantage of  
 23 the best information on the subject when you're --  
 24 A. Exactly.

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1 Q. -- planning your research.  
 2 A. That's right.  
 3 Q. I'd like to now take an example from your own  
 4 research. We've been provided with research  
 5 notebooks that cover some research you did in 1972 on  
 6 pasteurization of factor IX and, in particular, I'll  
 7 use the term "wet heat."  
 8 A. Right.  
 9 Q. Is that term familiar to you?  
 10 A. Yes.  
 11 Q. And when I use the term "wet heat," I'm going  
 12 to mean heating something in an aqueous  
 13 environment --  
 14 A. That's right.  
 15 Q. -- at 60 degrees centigrade. Okay? So we're  
 16 on the same track here, that's what I'll mean when I  
 17 use the term "wet heat." Okay?  
 18 Did you have a chance before today's  
 19 deposition --  
 20 A. Oh.  
 21 Q. I'm sorry.  
 22 A. I interpret wet heat means Konyne in the  
 23 solution.  
 24 Q. Right. In a solution.

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1 A. That's right.  
 2 Q. Before today's deposition, did you have a  
 3 chance to look at any of your research notes on the  
 4 research you did in 1972 on wet heat? Did you get to  
 5 look at that at all?  
 6 A. Yes; briefly, I did.  
 7 Q. All right. That research, let me tell you,  
 8 was performed in 1972. All right?  
 9 A. Yes, somewhere.  
 10 Q. Well, first of all, Doctor, can we agree that  
 11 by 1972, it was already very well established that  
 12 heat, using 60-degree heat for 10 hours in solution,  
 13 was very effective in destroying the hepatitis virus?  
 14 A. Yes.  
 15 MS. GOINS: Object to the form.  
 16 BY DR. LAUFMAN:  
 17 Q. That was well established from the experience  
 18 with albumin; isn't that true?  
 19 A. That's right.  
 20 Q. From, say, 1945 to 1970, it was well known  
 21 that hepatitis was not a problem associated with the  
 22 use of pasteurized albumin; isn't that true?  
 23 A. Yes.  
 24 Q. It was well known then, wasn't it, Doctor,

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1 that if you could heat a solution to 60 degrees  
 2 centigrade for 10 hours, you could kill the hepatitis  
 3 virus; right?  
 4 MS. GOINS: Object to the form.  
 5 THE WITNESS: Yes, I understand it.  
 6 DR. LAUFMAN: Okay.  
 7 BY DR. LAUFMAN:  
 8 Q. Now, the hepatitis virus is just one of many  
 9 types of viruses; right?  
 10 A. Yes.  
 11 Q. And some viruses may be more susceptible to  
 12 heat than the hepatitis virus; right?  
 13 A. I -- I -- I didn't know that, because I am  
 14 not a virologist.  
 15 Q. All right. As a scientist, though, do you  
 16 understand that some bacteria -- strike that.  
 17 Working around Cutter, you became  
 18 familiar with the idea of hepatitis virus; right?  
 19 A. Yes.  
 20 Q. As a scientist, were you aware of the fact  
 21 that some viruses would be more susceptible to heat  
 22 than the hepatitis virus?  
 23 MS. GOINS: The question has been asked  
 24 and answered.

1 THE WITNESS: I didn't know that.  
 2 DR. LAUFMAN: Okay.  
 3 BY DR. LAUFMAN:  
 4 Q. Did you understand, Doctor, in the early '70s  
 5 that some viruses would be more resistant to heat  
 6 than the hepatitis virus?  
 7 A. I did know that.  
 8 Q. The research that you did involved the use of  
 9 two model viruses.  
 10 A. That's right.  
 11 Q. Do you recall that?  
 12 A. Yes.  
 13 Q. The blue tongue virus was one of the  
 14 viruses.  
 15 A. Yes.  
 16 Q. Do you remember that?  
 17 A. Yes.  
 18 Q. Now, those two model viruses were models to  
 19 simulate hepatitis virus, weren't they?  
 20 A. Yes. That's what I understood.  
 21 Q. Okay. And did you understand that model  
 22 viruses were being selected to demonstrate what would  
 23 happen to the hepatitis virus in the conditions that  
 24 were being investigated?

1 A. Yes.  
 2 Q. Now, to draw any conclusion about the  
 3 experiment using model viruses, one would have to  
 4 know whether the model viruses were comparable in  
 5 their vulnerability to heat as the hepatitis virus;  
 6 isn't that right?  
 7 MS. GOINS: Object to the form of the  
 8 question.  
 9 DR. LAUFMAN: Let me restate that for  
 10 you, Doctor.  
 11 BY DR. LAUFMAN:  
 12 Q. You've recalled using model viruses in -- in  
 13 the work that we're now discussing in the early 19 --  
 14 or, rather, the 1972 wet heat experiments.  
 15 A. Yes.  
 16 Q. And the objective was to -- to determine  
 17 whether Konyne could be pasteurized in a way that  
 18 would kill virus; right? And the objective was to  
 19 kill the virus; right?  
 20 A. Yes.  
 21 Q. All right. And a model -- and model viruses,  
 22 two model viruses, were used for purposes of the  
 23 experiment, as you've recalled.  
 24 Isn't it true, Doctor, that in order to

1 draw some conclusion from the result of that  
 2 experiment, one had to be able to compare the heat  
 3 characteristics of the model viruses with hepatitis  
 4 virus?  
 5 A. I didn't know that. It was an experiment  
 6 designed by Bob Louie and Duane Schroeder.  
 7 Q. All right. Did you rely on Dr. Louie and Dr.  
 8 Schroeder, then, to design at least portions of the  
 9 experiment we're now describe -- discussing; that is,  
 10 the wet-heat experiment?  
 11 A. Yes. They designed. I just followed.  
 12 Q. All right. Is it your recollection, then,  
 13 that the details of that experiment, the wet-heat  
 14 experiment with Konyne in 1972, those details were  
 15 designed by Dr. Louie and Dr. Schroeder?  
 16 A. That's right.  
 17 Q. Your role was simply to carry out those  
 18 details; right?  
 19 A. That's right. Exactly.  
 20 Q. And the selection of the stabilizers and the  
 21 conditions for the experiment, those details were  
 22 designed by Dr. Louie --  
 23 A. That's right.  
 24 Q. -- and Dr. Schroeder.

1 A. Yes.  
 2 Q. Okay. From your standpoint as a biochemist,  
 3 Doctor, did you see the challenge of that experiment  
 4 to be stabilizing the factor IX so that it would  
 5 retain its biologic activity up to 60 degrees  
 6 centigrade in a -- in a solution?  
 7 MS. GOINS: Object.  
 8 BY DR. LAUFMAN:  
 9 Q. Was that the objective?  
 10 MS. GOINS: Object to the form of the  
 11 question.  
 12 You may answer.  
 13 BY DR. LAUFMAN:  
 14 Q. Doctor, I'll restate the question for you.  
 15 A. Yes.  
 16 Q. We're talking about the wet-heat experiment  
 17 on Konyne in 1972. And you recalled, do you, sir,  
 18 the experiment called for heating some material --  
 19 A. Yes.  
 20 Q. -- including Konyne, to 60 degrees  
 21 centigrade --  
 22 A. Yes.  
 23 Q. -- in solution; right?  
 24 In other words, to generate the same



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1 type of wet heat --  
 2 A. Right.  
 3 Q. -- that had been used with albumin; right?  
 4 A. Yes.  
 5 Q. And that was because that was the type of  
 6 heat that was known to kill hepatitis virus; right?  
 7 A. That's right. Yes.  
 8 Q. So is it fair to say, Doctor, that the real  
 9 investigation -- strike that.  
 10 Is it fair to say, Doctor, that the  
 11 objective of that research project was to determine  
 12 if factor IX could be stabilized to withstand  
 13 60-degree-centigrade wet heat?  
 14 A. That's right.  
 15 MS. GOINS: Object to the form.  
 16 BY DR. LAUFMAN:  
 17 Q. The problem of how to kill the virus had been  
 18 worked out with albumin; right?  
 19 MS. GOINS: Object to the form.  
 20 THE WITNESS: No, I don't know.  
 21 DR. LAUFMAN: All right.  
 22 BY DR. LAUFMAN:  
 23 Q. Doctor, when we use the term "stabilizers" --  
 24 strike that.

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1 By the term "stabilizer" I mean  
 2 something that is being added to Konyne with the  
 3 objective of --  
 4 A. Yes.  
 5 Q. -- making it withstand the effects of heat --  
 6 A. Yes.  
 7 Q. -- at 60 degrees centigrade.  
 8 A. Yes.  
 9 Q. So you understand that.  
 10 A. Yes.  
 11 Q. All right. Doctor, as you look at the  
 12 experiment or as you consider the experiment that was  
 13 done with Konyne and wet heat in -- in 1972, do you  
 14 think it's fair to say that the most important part  
 15 of the experiment was the choice of the specific  
 16 stabilizers that would be tested? That was the --  
 17 A. No.  
 18 Q. What was, then?  
 19 A. We weren't aware of any stabilizer at that  
 20 time.  
 21 Q. All right. Let me -- I believe I confused  
 22 you there.  
 23 It was an investigation to find out  
 24 whether there were stabilizers that would work with

1 Konyne; right? That's what you were investigating?  
 2 A. No. No stabilizer was known.  
 3 Q. I'm sorry?  
 4 A. No stabilizer was known.  
 5 Q. But am I correct, sir, that the purpose of  
 6 the experiment was to see if you could identify a  
 7 stabilizer, to try to see if there were a  
 8 stabilizer?  
 9 Let me -- let me back up here. I don't  
 10 want to confuse you, Doctor.  
 11 Remember, in the experiment four  
 12 different choices of stabilizers were tested: One of  
 13 them was half percent albumin, one of them was .3  
 14 molar glycine, one of them was 50 percent glycerol.  
 15 A. Yes.  
 16 Q. Do you remember that?  
 17 A. Yes.  
 18 Q. So there were four different choices made --  
 19 A. Yes.  
 20 Q. -- for potential --  
 21 A. Yes.  
 22 Q. -- stabilizers; right?  
 23 A. Yes.  
 24 Q. When you went into the experiment, you didn't

1 know whether any one of them would work or not;  
 2 right?  
 3 A. That's right.  
 4 Q. The whole idea was to find out whether those  
 5 stabilizers would be effective.  
 6 MS. GOINS: Object to the form.  
 7 THE WITNESS: Yes. But we are trying  
 8 to find out whether there's any stabilizer,  
 9 but in those days, we couldn't succeed in  
 10 finding.  
 11 BY DR. LAUFMAN:  
 12 Q. Okay. But just as we talk about this  
 13 experiment, four different choices were made for  
 14 testing --  
 15 A. Yes.  
 16 Q. -- a stabilizer; right?  
 17 MS. GOINS: Excuse me.  
 18 Are you questioning him on a study  
 19 that's contained in his lab notebook? It may  
 20 assist if he had a chance to look at it.  
 21 DR. LAUFMAN: Well, we're going to get  
 22 to that. We're just now trying to --  
 23 MS. GOINS: Okay.  
 24 DR. LAUFMAN: -- understand the purpose

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1 of the experiment.  
 2 MS. GOINS: Okay.  
 3 Let him know if you need to look at the  
 4 work that you did.  
 5 THE WITNESS: Yes.  
 6 BY DR. LAUFMAN:  
 7 Q. Doctor, I do wish to look at those details,  
 8 but I'm trying to understand the concept of the  
 9 experiment.  
 10 A. Yes.  
 11 Q. My understanding is that the experiment was  
 12 designed to test four choices for potentially  
 13 stabilizing factor IX so that it would withstand  
 14 60-degree-centigrade heat in solution.  
 15 MS. GOINS: There's no question.  
 16 BY DR. LAUFMAN:  
 17 Q. Is that your understanding of the experiment  
 18 as well?  
 19 A. Yes. Yes.  
 20 Q. And -- okay. My understanding, Dr. Wada, is  
 21 that the choice of the stabilizer -- strike that.  
 22 My understanding, Dr. Wada, is that the  
 23 materials that were going to be tested as potential  
 24 stabilizers, those materials were chosen by Dr.

1 Q. So that's where they came from, from the work  
 2 with albumin.  
 3 A. That's right.  
 4 Q. All right. The fourth candidate for  
 5 stabilizer was 50 percent glycerol.  
 6 Do you remember that?  
 7 A. Yes.  
 8 Q. And do you recall what explanation or  
 9 rationale there was for testing 50 percent glycerol?  
 10 A. No.  
 11 Q. Doctor, is it your recollection that after  
 12 you tested those four candidates for stabilizing  
 13 factor IX, the conclusion was that none of them  
 14 worked?  
 15 A. That's right.  
 16 Q. None of them worked because factor IX's  
 17 activity was destroyed; right?  
 18 A. That's right.  
 19 Q. As a result of that work, was the conclusion  
 20 drawn that the pasteurization of factor IX did not  
 21 appear to be feasible? Was that the conclusion?  
 22 MS. GOINS: By him? You're asking his  
 23 conclusion?  
 24 DR. LAUFMAN: Yes.

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1 Schroeder and Dr. Mozen; right?  
 2 A. Yes. That's right.  
 3 Q. Can you recall, sir, what the explanation or  
 4 rationale was for using .5 percent albumin as one of  
 5 the potential stabilizers to test? What -- what was  
 6 it that explained the choice of .5 percent albumin,  
 7 if you know?  
 8 A. I didn't know that.  
 9 Q. All right. I have to ask you the same  
 10 question for each of the four choices.  
 11 Another candidate that was selected for  
 12 that experiment was .3 molar glycine.  
 13 A. Yes.  
 14 Q. Did Dr. Schroeder or Dr. Mozen explain to you  
 15 why they selected .3 molar glycine?  
 16 A. I don't remember.  
 17 Q. As far as you -- well, strike that. Okay.  
 18 The third candidate for stabilizer was  
 19 sodium caprylate and acetyltryptophan.  
 20 A. Yes.  
 21 Q. Now, those were --  
 22 A. Those are normal to study albumin.  
 23 Q. Right.  
 24 A. Not factor IX.

1 THE WITNESS: At that stage, yes.  
 2 DR. LAUFMAN: All right.  
 3 THE WITNESS: 60 degrees was the -- not  
 4 promising.  
 5 DR. LAUFMAN: All right.  
 6 BY DR. LAUFMAN:  
 7 Q. Insofar as you were working with Dr. Mozen  
 8 and Dr. Schroeder on this particular project, as far  
 9 as you can recall, was the conclusion that you drew  
 10 with Dr. Mozen and Dr. Schroeder that pasteurization  
 11 of factor IX did not appear to be feasible?  
 12 MS. GOINS: Object to the form of the  
 13 question.  
 14 THE WITNESS: Yes. At that stage, not  
 15 promising.  
 16 DR. LAUFMAN: All right.  
 17 BY DR. LAUFMAN:  
 18 Q. Now, Doctor, as a scientist who carried out  
 19 the experiment, the -- the -- strike that.  
 20 Doctor, the experiment was carried out  
 21 at a particular pH with respect to --  
 22 A. Yes.  
 23 Q. -- testing these candidates for stabilizers.  
 24 A. Yes.



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1 Q. My understanding from what you've said is  
 2 that Dr. Schroeder and Dr. Mozen would have  
 3 determined what pH they wanted --  
 4 A. That's right.  
 5 Q. -- the studies carried out.  
 6 A. Exactly.  
 7 Q. Okay. And certainly, the concentration of  
 8 each of the candidates for stabilizer, those  
 9 concentrations were determined by Dr. Mozen and Dr.  
 10 Schroeder?  
 11 A. Yes.  
 12 Q. If they had wanted you to do additional  
 13 testing with different concentrations or a different  
 14 pH, you would have done that, I take it; is that  
 15 right?  
 16 A. Yes. If I had time.  
 17 Q. Okay. In other words, at the time you were  
 18 doing this, were you busy with other things?  
 19 A. No. I had to spend 100 percent of the time  
 20 to accomplish what Duane Schroeder and Milt Mozen  
 21 dictate.  
 22 Q. All right. Are you referring to other  
 23 projects or just to the pasteurization project?  
 24 Doctor, I was a little confused by what

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1 you said.  
 2 You had to spend all of your time  
 3 carrying out work that was assigned to you by Dr.  
 4 Schroeder and Dr. Mozen?  
 5 A. That's right. Exactly.  
 6 Q. All right. My question before had been this:  
 7 If Dr. Mozen and Dr. Schroeder had asked -- had asked  
 8 you to do additional testing of candidates for  
 9 stabilizing factor IX, would you have done the  
 10 additional testing? If they had said --  
 11 A. If they had told me, then I would have  
 12 planned something, yes.  
 13 Q. All right. Doctor, as a protein biochemist,  
 14 you are familiar both with factor IX and factor VIII?  
 15 A. Yes.  
 16 Q. This work that we've just now discussed  
 17 regarding the wet-heat treatment of factor IX and the  
 18 results that you got, in your opinion, sir, did those  
 19 results mean that it would not be feasible to  
 20 pasteurize factor VIII?  
 21 MS. GOINS: Object to the form.  
 22 BY DR. LAUFMAN:  
 23 Q. Do you understand my question? Let me  
 24 restate it for you.

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1 The work that we've just been  
 2 describing involved factor IX; right?  
 3 A. Yes.  
 4 Q. And you've told me that the candidates for  
 5 stabilizers failed to stabilize factor IX and the  
 6 biologic activity of factor IX was lost.  
 7 A. Yes.  
 8 Q. Right?  
 9 So that was experiment involving the  
 10 protein factor IX.  
 11 A. Yes.  
 12 Q. So my question for you, Doctor, is to you, as  
 13 a protein biochemist, did those results mean that it  
 14 would not be feasible to pasteurize the other  
 15 protein, factor VIII?  
 16 MS. GOINS: Object to the form of the  
 17 question.  
 18 BY DR. LAUFMAN:  
 19 Q. Or would you have to do additional testing to  
 20 check on factor VIII?  
 21 A. I couldn't answer that question.  
 22 Q. All right. You're familiar with the  
 23 characteristics of factor VIII and factor IX, to a  
 24 certain extent, aren't you?

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1 A. To a certain extent.  
 2 Q. They're different proteins, aren't they?  
 3 A. That's right.  
 4 Q. One is completely different size and has  
 5 different charge and different characteristics,  
 6 compared to the other.  
 7 A. Right.  
 8 Q. Isn't it true, Doctor, that the results of  
 9 the experiment on factor IX would not allow you to  
 10 predict whether or not factor VIII could be  
 11 successfully heat treated because factor VIII has  
 12 different characteristics from IX? Isn't that true?  
 13 MS. GOINS: Object to the form.  
 14 THE WITNESS: In those days, I was  
 15 understanding that factor -- factor VIII is  
 16 more unstable than factor IX. That was my  
 17 understanding in those days.  
 18 BY DR. LAUFMAN:  
 19 Q. Do you -- are you familiar with the protein  
 20 plasminogen?  
 21 A. Yes.  
 22 Q. And do you recall that plasminogen had been  
 23 successfully pasteurized before 1970 so that it too  
 24 could withstand the 60-degree heat? Do you remember



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1 that?

2 A. No, I don't remember.

3 Q. Okay. Well, Doctor, do you agree or disagree

4 that before you could be sure about the possibility

5 of stabilizing factor VIII with any particular

6 stabilizer, you would have to conduct the test?

7 Would you agree with that?

8 A. Yes.

9 Q. Because proteins behave, a single protein

10 behaves differently in many respects from all other

11 proteins; right?

12 A. Exactly. Yes.

13 Q. It's like human beings; we're all different

14 in certain respects. The same is true of proteins;

15 right?

16 A. (Witness nods head.)

17 Q. And something that stabilizes one protein

18 against the effects of heat may or may not work for

19 another protein; right?

20 A. That's right. Yes.

21 Q. How -- the experiments that you did on wet

22 heat for Konyne, those only took a few days.

23 A. That's correct.

24 Q. If you had been asked to do the very same

1 A. Vaguely.

2 Q. Vaguely. Okay.

3 A. I don't remember 70 percent.

4 Q. All right, Doctor. Let's turn to a subject

5 that I'll call dry heat.

6 A. Yes.

7 Q. Okay? By dry heat I simply mean applying

8 heat to factor VIII or factor IX in --

9 A. Lyophilized form.

10 Q. -- their lyophilized form. Right. They're

11 in a container, they're lyophilized and one applies

12 heat.

13 In 1972, you did some experiments on

14 dry heat for factor IX; right?

15 A. Yes.

16 Q. Before today's deposition, did you have a

17 chance to look at those experiments at the -- rather,

18 the notebook on those experiments?

19 A. No.

20 Q. Okay. I am going to ask you to look at this

21 in more detail in a few minutes.

22 Dry heat, Doctor, 60 degrees, applied

23 to lyophilized material, is that the same or

24 different as 60 degrees applied to factor IX in

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1 experiments on Koate, it would have taken a few more

2 days; right?

3 A. That's right.

4 Q. Doctor, at the time you were doing the

5 experiments on Konyne in 1972 using wet heat, were

6 you aware of the fact that sucrose was a protein

7 stabilizer?

8 A. Yes, I was aware of that.

9 Q. Were you aware of the fact that by the time

10 you were doing those experiments, sucrose had been

11 described as a general protein stabilizer?

12 A. Yes.

13 Q. Now, in the experiment that was performed, 50.

14 percent glycerol was used.

15 A. Yes.

16 Q. Okay? At that time in 1972 were you aware of

17 the fact that in the literature the use of glycerol

18 as a protein stabilizer was described and 75 percent

19 glycerol was described as the optimal concentration

20 for glycerol as a stabilizer?

21 A. Yes.

22 Q. Were you aware of that?

23 A. Probably vaguely aware.

24 Q. Probably what?

1 solution?

2 MS. GOINS: Object to the form.

3 BY DR. LAUFMAN:

4 Q. Is there a difference?

5 A. Well, 60 degrees is the same.

6 Q. Right. But is the effect the same or

7 different, depending upon whether the material is in

8 solution or lyophilized?

9 MS. GOINS: Object to the form.

10 THE WITNESS: I don't remember.

11 BY DR. LAUFMAN:

12 Q. By the way, when you were doing the

13 experiments on factor IX, were you using the assay

14 that you had developed for factor IX?

15 A. Yes.

16 Q. Am I correct, Doctor, that when you did the

17 dry-heat experiments on factor IX in 1972, the

18 details of those experiments were designed by Dr.

19 Schroeder and Dr. Mozen?

20 A. That's right. Yes.

21 Q. And you essentially carried out --

22 A. That's right.

23 Q. -- their experimental design; right?

24 The choice of the candidates for



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<p>1 stabilizers in the dry-heat experiment, then, were</p> <p>2 determined by Dr. Mozen --</p> <p>3 A. Exactly.</p> <p>4 Q. -- and Dr. Schroeder.</p> <p>5 If they had asked you to test those</p> <p>6 same stabilizers at different concentrations, then I</p> <p>7 take it you would have done that.</p> <p>8 A. Yes.</p> <p>9 Q. And the pH that was selected for that</p> <p>10 experiment, that was -- that was selected by Dr.</p> <p>11 Mozen and Dr. Schroeder.</p> <p>12 A. That's right.</p> <p>13 Q. Right?</p> <p>14 A. Yes.</p> <p>15 Q. Now, in that particular dry-heat experiment</p> <p>16 did you determine that the dry heat that was used did</p> <p>17 not destroy the biologic activity of factor IX?</p> <p>18 MS. GOINS: Object to the form.</p> <p>19 Do you understand the question?</p> <p>20 DR. LAUFMAN: I'll restate it for you,</p> <p>21 Doctor.</p> <p>22 THE WITNESS: Yes.</p> <p>23 DR. LAUFMAN: Any time there's anything</p> <p>24 uncertain to you about my question, please</p>	<p>1 looking at his notebooks from '72; right?</p> <p>2 DR. LAUFMAN: Well, we're going to look</p> <p>3 at the notebooks.</p> <p>4 MS. GOINS: Okay. For now you want him</p> <p>5 to accept that.</p> <p>6 DR. LAUFMAN: For now I simply want to</p> <p>7 ask Dr. Wada a question about the use of the</p> <p>8 same candidates for stabilizer in the dry</p> <p>9 heat in the wet-heat experiments, whatever</p> <p>10 they were, that they were the same. Okay?</p> <p>11 THE WITNESS: Yes.</p> <p>12 BY DR. LAUFMAN:</p> <p>13 Q. When you were doing the dry-heat experiment</p> <p>14 and those four candidates for stabilizer were used,</p> <p>15 do you recall whether or not the activity of factor</p> <p>16 IX was affected by the use of those stabilizers? Was</p> <p>17 it helped in any way?</p> <p>18 MS. GOINS: Object to the form.</p> <p>19 THE WITNESS: No, I don't recall.</p> <p>20 MS. SPIVEY: Off the record for a</p> <p>21 second.</p> <p>22 DR. LAUFMAN: Actually --</p> <p>23 MR. SPIVEY: Let's go off the record</p> <p>24 for just a minute.</p>
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<p>1 don't hesitate.</p> <p>2 BY DR. LAUFMAN:</p> <p>3 Q. The same four candidates for stabilizers --</p> <p>4 A. Yes.</p> <p>5 Q. -- that were used with factor IX --</p> <p>6 A. Yes.</p> <p>7 Q. -- were also used with your factor IX -- I'm</p> <p>8 sorry.</p> <p>9 The same four candidates for stabilizer</p> <p>10 that were used in the wet-heat experiment with factor</p> <p>11 IX --</p> <p>12 A. Yes.</p> <p>13 Q. -- were also used in the dry-heat experiment</p> <p>14 for factor IX.</p> <p>15 Do you recall that?</p> <p>16 A. I don't recall just for what.</p> <p>17 Q. Well, in the interest of time, we're going to</p> <p>18 be looking at this, but let me just call to your</p> <p>19 attention that the four stabilizers that were used in</p> <p>20 both experiments were .5 percent albumin, .3</p> <p>21 glycine, .3 molar glycine, .02 sodium caprylate, .02</p> <p>22 molar acetyltryptophan and 50 percent glycerol?</p> <p>23 MS. GOINS: You want -- you're asking</p> <p>24 him to accept that that was done without</p>	<p>1 DR. LAUFMAN: All right.</p> <p>2 THE VIDEO SPECIALIST: We're off the</p> <p>3 record at 10:45 a.m.</p> <p>4 MR. SPIVEY: Susan, in terms of timing,</p> <p>5 we have a phone call that we have to get on</p> <p>6 at 11:30. Do you want to take an early lunch</p> <p>7 break, say from 11:30 to 12:30?</p> <p>8 MS. GOINS: That would be fine.</p> <p>9 MR. SPIVEY: Do you want to go through</p> <p>10 then from now until 11:30?</p> <p>11 MR. RIZZO: Let's take a short break.</p> <p>12 (Short recess.)</p> <p>13 (Whereupon a multi-page copy of</p> <p>14 document entitled "Biochemical Research</p> <p>15 Department Quarterly Progress Report, April -</p> <p>16 June, 1972," MSD 000094-MSD 000099, was</p> <p>17 marked "Exhibit Wada-8" for identification.)</p> <p>18 (Whereupon a multi-page copy of</p> <p>19 document entitled "Research Record Book No.</p> <p>20 1360" was marked "Exhibit Wada-9" for</p> <p>21 identification.)</p> <p>22 THE VIDEO SPECIALIST: We are back on</p> <p>23 the video record at 10:59 a.m.</p> <p>24</p>

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1 BY DR. LAUFMAN:

2 Q. Dr. Wada, first let me apologize. I think I  
3 made a mistake when I suggested a moment ago before  
4 our break that the same stabilizers were used for the  
5 dry-heat experiment.

6 Before we get to the dry-heat  
7 experiment, I've marked as Plaintiff's Exhibit Number  
8 Eight a Quarterly Progress Report for the Biochemical  
9 Research Department for the period April - June 1972,  
10 and I want to call your attention to Page 75 of that  
11 document.

12 Have you had a chance to read that  
13 page, 75?

14 A. Yes, I did.

15 Q. As best you can tell, Doctor, does that page  
16 reflect the research that you did on Konyne involving  
17 wet heat and dry heat?

18 A. That's right.

19 Q. All right. And do you see in the first  
20 paragraph there is a description of the stabilizers  
21 that were used in the experiment on the wet heat, .5  
22 percent albumin, .3 molar glycine, .02 molar sodium  
23 caprylate and .02 acetyltryptophan together, and  
24 then, finally, the fourth, 50 percent glyccrol? Do

1 Paragraph Two?

2 A. Yes.

3 Q. Was that the conclusion, then, that was  
4 reached, as you recall it from your work in '72?

5 A. That's right.

6 Q. Was the problem with the dry-heat experiment  
7 that the model viruses weren't killed? Is that what  
8 led to that conclusion?

9 MS. GOINS: Object to the form.

10 DR. LAUFMAN: Let me restate the  
11 question for you, Doctor.

12 BY DR. LAUFMAN:

13 Q. Were the model viruses inactivated by the dry  
14 heat in the experiment you performed in 1972?

15 I call your attention to the  
16 next-to-last sentence on that second paragraph, which  
17 reads, "This treatment was found to have no  
18 inactivating effect upon these viruses."

19 A. Yes.

20 Q. The dry-heat experiment, then, my  
21 understanding is, Doctor, it involved taking some  
22 Konyne in powdered form and heating it to 60 degrees  
23 centigrade in this dry form.

24 A. Yes.

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1 you see that?

2 A. Ycs.

3 Q. Those were the stabilizers that I mentioned  
4 earlier.

5 A. Yes.

6 Q. Right?

7 I got that much correct, didn't I?

8 A. Yes.

9 Q. Doctor, the second paragraph of that exhibit  
10 on Page 75 mentions the dry-heat experiment.

11 A. Yes.

12 Q. Stabilizers were not used for -- or were  
13 stabilizers used for that experiment?

14 A. No. Here, no stabilizer was on there.

15 Q. All right. So the four selections of  
16 stabilizers were used with the wet-heat experiment  
17 but not for the dry-heat experiment; right?

18 A. Yes.

19 Q. Okay. Now, on the dry-heat experiment,  
20 according to this document, the conclusion was  
21 reached, it appears infeasible to inactivate  
22 hepatitis-associated antigen by this treatment.

23 A. Yes.

24 Q. Do you see that as the final sentence in

1 Q. And in some samples model virus was added to  
2 see whether or not the dry heat would kill it? Is  
3 that essentially what was done?

4 A. No, I don't recall it.

5 Q. Okay. Let me ask you to look at the --

6 A. Oh, yes. Yes.

7 Q. Okay.

8 Now, in -- in that particular instance,  
9 60 degrees centigrade, was that the highest  
10 temperature used for the dry-heat experiment?

11 A. That's right. Yes. We never used the  
12 temperature higher than 60.

13 Q. Okay. In that experiment, what effect was  
14 there on the factor IX? Was -- was the factor IX  
15 activity preserved or not preserved?

16 A. Not preserved.

17 Q. I'm sorry?

18 A. Not preserved.

19 Q. All right.

20 A. There was considerable loss of --

21 Q. Okay.

22 A. -- factor IX activity.

23 Q. How about when salts were added, Doctor? If  
24 salts were added in the dry-heat experiment, was



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1 there very little destruction?  
 2 Let me call your attention to the line  
 3 right above Table 12. It says, "although very little  
 4 destruction took place in the presence of salts."  
 5 A. Yes.  
 6 MS. GOINS: I'm going to object to the  
 7 form.  
 8 DR. LAUFMAN: All right.  
 9 BY DR. LAUFMAN:  
 10 Q. Well, do you see the -- in Page 75 of our  
 11 Exhibit Eight the comment that very little  
 12 destruction took place in the presence of salts?  
 13 MS. GOINS: Could we read the whole  
 14 sentence?  
 15 DR. LAUFMAN: Well, I just am asking  
 16 whether he sees that.  
 17 MS. GOINS: That's my objection.  
 18 It's -- it's incomplete  
 19 BY DR. LAUFMAN:  
 20 Q. Well, Doctor, please read the entire  
 21 sentence, beginning with, "As shown in Table XII"  
 22 Do you see the sentence, "As shown in Table XII, the  
 23 loss of in vitro factor IX activity was considerable  
 24 in the absence of salts" --

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1 A. Yes.  
 2 Q. -- "although very little destruction took  
 3 place in the presence of salts"?  
 4 A. Yes.  
 5 Q. But whether there were salts or no salts, the  
 6 treatment was found to have no inactivating effect on  
 7 the model viruses; is that correct?  
 8 A. That's right.  
 9 Q. Okay. Now, Doctor, in front of you we have  
 10 marked as Plaintiff's Exhibit Nine a copy of the  
 11 actual notebook with your results from 1972. It's  
 12 Notebook 1360, and the first page has a date of  
 13 July 1, 1991, but I want to call your attention to  
 14 Page 83. If you would keep before you your research  
 15 notebook with Page 83, I just want to check with you  
 16 on a couple of things here.  
 17 Do you see your entry for April 20th,  
 18 1972, at the bottom of the page, Page 83?  
 19 A. Yes.  
 20 Q. Okay. Do you see the first sentence reads,  
 21 "An experiment was set up to test heat  
 22 pasteurization of PTC with various additives"?  
 23 Do you see that?  
 24 A. Yes. Right.

1 Q. And on Page 84 of that document at the top of  
 2 the page do you have a table that lists the four  
 3 additives that were used?  
 4 A. Yes.  
 5 Q. And can you tell us what those four additives  
 6 were, based on the original laboratory notebook?  
 7 A. .5 percent albumin and .3 molar glycine  
 8 and .02 molar sodium caprylate and .02 molar  
 9 acetyltryptophan, and 50 percent glycerol.  
 10 Q. Okay. Doctor, with respect to the dry-heat  
 11 experiment that you performed, do you see that  
 12 reflected on Page 84 on the date April 24th? Does  
 13 that begin to describe -- I'm sorry. On Page 85 do  
 14 you see mention of your dry-heat experiment?  
 15 A. 85.  
 16 Q. I think April 27th.  
 17 A. Yes. All right.  
 18 DR. LAUFMAN: Why don't we go off the  
 19 record.  
 20 THE VIDEO SPECIALIST: We are off the  
 21 video record at 11:09 a.m.  
 22 DR. LAUFMAN: If we may, could we go  
 23 back on the record?  
 24 I think that we can make a little bit

1 of progress before the break and certainly  
 2 Dr. Wada can stop and read anything further  
 3 that he needs to that I may raise at this  
 4 point.  
 5 MS. GOINS: Okay. There's no question  
 6 pending; right?  
 7 DR. LAUFMAN: Right.  
 8 Go back on the record.  
 9 THE VIDEO SPECIALIST: We are back on  
 10 the video record at 11:13 a.m.  
 11 BY DR. LAUFMAN:  
 12 Q. Dr. Wada, on the bottom of Page 85, the  
 13 May 2nd entry --  
 14 A. Yes.  
 15 Q. -- can you take a look at the data, the  
 16 numbers that are there, and also look at Page 75 of  
 17 the other document that you have, our other exhibit.  
 18 It appears to me that what they've done  
 19 on Page 75 of Exhibit Eight is take the data from  
 20 your notebook on Page 85.  
 21 Do you see that?  
 22 A. Yes.  
 23 Q. Does it appear to you that that's what  
 24 they've done on Page 75 of Exhibit Eight is take the

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<p>1 data from your lab notebook?</p> <p>2 A. That's Page 85.</p> <p>3 Q. Right?</p> <p>4 A. Yes.</p> <p>5 Q. Okay. And as you can see from the quarterly</p> <p>6 report, that data relates to the dry-heat experiment</p> <p>7 where they're talking about heat treatment of PTC in</p> <p>8 dry form in the absence of salts?</p> <p>9 A. Yes.</p> <p>10 Q. And the results that you obtained on Page 85</p> <p>11 of your notebook reflected that or that data is</p> <p>12 reflected in the quarterly report on Page 75; right?</p> <p>13 A. Yes.</p> <p>14 Q. Okay. Now, have you had a chance to look at</p> <p>15 Page 86 of your laboratory report? Have you already</p> <p>16 looked at that?</p> <p>17 A. No.</p> <p>18 Q. No? Okay. Then let's go back to Page 85.</p> <p>19 That's all right, because we're going to have a lunch</p> <p>20 break.</p> <p>21 And would you also keep with you the</p> <p>22 Page 75 of Exhibit Eight that is there?</p> <p>23 A. Uh-huh.</p> <p>24 Q. If we look at Page 75 of Exhibit Eight, in</p>	<p>1 question.</p> <p>2 THE WITNESS: Yes, considerable</p> <p>3 destruction in the absence of salts.</p> <p>4 BY DR. LAUFMAN:</p> <p>5 Q. And was there very little destruction in the</p> <p>6 presence of salts?</p> <p>7 A. But no numerical data are given here.</p> <p>8 Q. Yes. And you're -- when you say "here,"</p> <p>9 you're referring to the quarterly report marked as</p> <p>10 Exhibit Eight; is that right?</p> <p>11 A. Yes.</p> <p>12 Q. Okay. All right, Doctor.</p> <p>13 Before we take our lunch break, can I</p> <p>14 ask you if you can read some of the entries here that</p> <p>15 I'm having trouble reading from your laboratory</p> <p>16 notebook? I know the photocopying is not perfect,</p> <p>17 but --</p> <p>18 A. Yes, I also have difficulty in reading.</p> <p>19 Q. Can you look at the table of data that is on</p> <p>20 Page 86?</p> <p>21 A. Yes.</p> <p>22 Q. Okay. Do you see right under that table you</p> <p>23 have an asterisk? It says, "pH of solution"?</p> <p>24 A. Oh. Dissolved in --</p>
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<p>1 the second paragraph it reads, "As the next</p> <p>2 experiment PTC was pasteurized in dry form."</p> <p>3 Is that a correct statement of what you</p> <p>4 did?</p> <p>5 A. Yes.</p> <p>6 Q. Okay. Then they say, "Both bulk desiccated</p> <p>7 powder (no salt) and final desiccated plug (salts</p> <p>8 added) were held at 60 degrees centigrade for 10 and</p> <p>9 20 hours."</p> <p>10 A. Yes.</p> <p>11 Q. And is that what you did in your --</p> <p>12 A. Yes.</p> <p>13 Q. -- experiment?</p> <p>14 And then you had to assay the results</p> <p>15 after the experiment; right?</p> <p>16 A. Yes.</p> <p>17 Q. So is it a correct summary of that experiment</p> <p>18 to say that there was considerable loss of factor IX</p> <p>19 activity when the dry heat was used without salts but</p> <p>20 very little destruction when salts were present?</p> <p>21 MS. GOINS: Object to the form.</p> <p>22 BY DR. LAUFMAN:</p> <p>23 Q. Is that a correct summary?</p> <p>24 MS. GOINS: Object to the form of the</p>	<p>1 Q. Do you see where I'm referring to?</p> <p>2 A. Yes.</p> <p>3 Q. That's right.</p> <p>4 A. Yes.</p> <p>5 Q. Can you read for me what it says? There are</p> <p>6 four lines there.</p> <p>7 A. Yes. PH of solution dissolved in 6</p> <p>8 milliliters .05 molar sodium citrate, .08 -- .088</p> <p>9 molar sodium chloride, pH was subsequently adjusted</p> <p>10 to 7.2 to 7.3 with one normal sodium hydroxide. The</p> <p>11 above results indicate that virtually no loss of PTC</p> <p>12 is observed in the dry-heat treatment with salts.</p> <p>13 Q. Okay. Does the quarterly report marked as</p> <p>14 Exhibit Eight then correctly state your observation</p> <p>15 that virtually no loss of PTC occurred in the</p> <p>16 dry-heat treatment with salts?</p> <p>17 A. That's right. Yes.</p> <p>18 Q. Okay, Doctor. Let me give you a chance, if</p> <p>19 you would, to look at the first line of your note on</p> <p>20 May 5th, 1972. I know that it starts, "PTC powder."</p> <p>21 A. Yes.</p> <p>22 Q. Parenthesis, 41301B, closed paren. Does that</p> <p>23 say "was dissolved"?</p> <p>24 A. "Was dissolved."</p>



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1 Q. "In citrate"?

2 A. "In citrate sodium chloride."

3 Q. Okay. And then it goes on in the second line

4 to mention the pH adjusted to 7.2.

5 A. That's right.

6 Q. All right. Thank you.

7 Doctor, in that particular experiment

8 two viruses were used that I think were described in

9 the quarterly report that you have there.

10 A. Yes.

11 Q. Bovine rhinotracheitis virus and blue tongue

12 virus?

13 A. Yes.

14 Q. Did you interpret the effects on the viruses

15 from that experiment --

16 A. No.

17 Q. -- or were they given to someone else?

18 A. Exactly.

19 Q. And who --

20 A. Bob Louie and Duane Schroeder.

21 Q. Okay. The statement is made in the quarterly

22 report, "This treatment was found to have no

23 inactivating effect upon these viruses."

24 A. Yes.

1 chloride. You don't have to read the whole thing. I

2 just want to call this to your attention.

3 A. Yes.

4 Q. And then under that there is mention of

5 something called ethylene oxide?

6 A. Yes.

7 Q. Doctor, we're about to take our lunch break.

8 In the interest of time, I want to give you a chance

9 to read the information on Exhibit Eight that deals

10 with benzalkonium chloride and ethylene oxide and

11 also the bottom of Page 75 I should also mention

12 there is the subject of betapropiolactone raised.

13 Would you be willing, Dr. Wada, if your

14 attorneys or if the attorneys here are willing to do

15 so, to take a look at Page 75 and 76 of the quarterly

16 report and your original laboratory notebook, those

17 last several pages of the notebook after the pages

18 that we've already looked at, which are -- we've

19 already looked at Pages 83 and 84, and I think in the

20 next five or six pages there are entries that relate

21 to the other items on our quarterly report, Exhibit

22 Eight.

23 A. Yes.

24 Q. And please also, as time permits, would you

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1 Q. "Therefore, it appears infeasible to

2 inactivate HAA by this treatment."

3 A. Yes.

4 Q. Do you see that?

5 A. Yes.

6 Q. As far as you know, Doctor, was that the

7 conclusion, then, that the virologist, Dr. Louie,

8 reached in 1972?

9 A. Yes, I understand.

10 DR. LAUFMAN: Okay. Let's go off the

11 video for a second.

12 THE VIDEO SPECIALIST: We are off the

13 video record at 11:21 a.m.

14 (Discussion off the record.)

15 DR. LAUFMAN: Let's go back on the

16 record.

17 THE VIDEO SPECIALIST: We are back on

18 the video record at 11:23 a.m.

19 BY DR. LAUFMAN:

20 Q. Doctor, would you look at Page 76 of the

21 quarterly report marked as Exhibit Eight.

22 A. Yes.

23 Q. You see that at the top of the page there's

24 mention of an experiment on -- using benzalkonium

1 look at one other laboratory notebook that I'll have

2 to find that picks up where I think Lab Notebook 1360

3 leaves off? Would you be willing to do that over the

4 lunch break, to look at those pages?

5 A. Yes.

6 MS. GOINS: You're sending him homework

7 now?

8 DR. LAUFMAN: In the interest of

9 time --

10 MS. GOINS: Sure.

11 DR. LAUFMAN: -- I'm suggesting that if

12 Dr. Wada wants to read his notes, that we

13 might as well adjourn and give him a chance

14 to look at that material.

15 MS. GOINS: Okay.

16 MR. BARR: While we're on the record, I

17 want to -- I'm -- I'm confused. Is it your

18 understanding from the witness -- from an

19 answer the witness gave that in preparation

20 for his deposition he has not looked at any

21 laboratory notebooks?

22 DR. LAUFMAN: No. I believe we were

23 told he has looked at some notebooks.

24 MR. BARR: That's fine. Thank you.

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1 MR. SPIVEY: Some he did and some he  
2 didn't, I think he said.  
3 MR. BARR: That's fine. Thanks.  
4 DR. LAUFMAN: So why don't we take our  
5 lunch break.  
6 MS. GOINS: Okay.  
7 DR. LAUFMAN: What time shall we  
8 reconvene?  
9 MR. SPIVEY: In light of the homework  
10 assignment.  
11 Does he need an extra 15 or 20  
12 minutes?  
13 DR. LAUFMAN: Whatever is good for you.  
14 MS. GOINS: I think an hour is probably  
15 enough.  
16 THE VIDEO SPECIALIST: We are off the  
17 video record at 11:27 a.m.  
18 (Luncheon recess)  
19 AFTERNOON SESSION  
20 (Whereupon a multi-page copy of  
21 document entitled "Research Record Book No.  
22 1441," MIL 016315-MIL 016414, was marked  
23 "Exhibit Wada-10" for identification.)  
24 THE VIDEO SPECIALIST: We are now on

1 read the quarterly report?  
2 A. Yes.  
3 Q. Let's turn, then, back to our Exhibit Number  
4 Eight, the quarterly report for April to June 1972.  
5 When you look at the report and that  
6 exhibit of the work you did in 1972 using wet heat on  
7 factor IX, is the report of that work in this exhibit  
8 accurate, as far as you can see?  
9 A. Yes.  
10 Q. Yes? And, secondly, Doctor, the same  
11 question with respect to the work on dry heat that  
12 you did with factor IX in 1972: Is the report of  
13 that work in this Exhibit Number Eight accurate, as  
14 far as you can tell?  
15 A. Yes.  
16 Q. Doctor, let me ask you a few more questions  
17 about the work you did with dry heat on factor IX.  
18 That work employed a 60-degree  
19 temperature in combination with this powdered  
20 material --  
21 A. Yes.  
22 Q. -- factor IX; is that right?  
23 A. Yes. Yes.  
24 Q. If Dr. Mozen or Dr. Schroeder had asked you

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1 the video record at 12:37 p.m.  
2 This is the beginning of Tape Two.  
3 BY DR. LAUFMAN:  
4 Q. Dr. Wada, it's now 12:30, and I think we  
5 adjourned the deposition for a lunch break around  
6 11:15.  
7 Have you had an opportunity to look at  
8 Lab Notebook 1360, the pages --  
9 A. Yes.  
10 Q. -- 83 to 94?  
11 A. However, I have considerable difficulty in  
12 reading.  
13 Q. All right. But insofar as the photocopies  
14 we've been provided are -- are here, have you had a  
15 chance to look at those 11 pages?  
16 A. Yes.  
17 Q. And also in Lab Notebook 1441, have you had  
18 an opportunity to read the four pages that I marked,  
19 Pages 9 to 12?  
20 A. Yes.  
21 Q. And, by the way, we have now marked as Lab  
22 Notebook 1441, we've marked it as Exhibit -- Exhibit  
23 Ten.  
24 Doctor, do you find it easier, then, to

1 to perform the same experiment at a higher  
2 temperature, let's say 70 degrees centigrade --  
3 A. No. No.  
4 Q. Let me finish my question, please.  
5 MS. GOINS: Let him finish.  
6 BY DR. LAUFMAN:  
7 Q. This is hypothetically speaking.  
8 A. Oh, I see.  
9 Q. Just hypothetically speaking, in your  
10 position working for Cutter at that time, if your  
11 superiors, Dr. Schroeder and Dr. Mozen, had come to  
12 you and said, Dr. Wada, we've done this work now with  
13 dry heat at 60 degrees, we would like you to try the  
14 same experiment at 70 degrees, would you have done  
15 that experiment?  
16 A. Yes. If they had asked me to do, I would  
17 have.  
18 Q. Well, they were the ones who you've told us  
19 were designing the details of the experiment.  
20 A. That's right. Yes.  
21 Q. So if they had decided after you were done  
22 with the work at 60 degrees to try let's say 70 or  
23 even 80 degrees centigrade, you would have done it;  
24 right?



1 A. Certainly.

2 Q. All right. Doctor, my recollection is that  
3 in the years 1972 to 1984 most of your efforts at  
4 Cutter were in the -- in the field of platelet work;  
5 is that correct?

6 A. And developing -- developing coagulation,  
7 pardon me, assay technique.

8 Q. I'm sorry. Say that --

9 A. Coagulation assay technique.

10 Q. Okay. I'm sorry. Most of your work from '72  
11 to '84 then was coagulation assay work and platelet  
12 work?

13 A. That's right.

14 Q. Okay. When you were doing work on the assay,  
15 you would sometimes use, I think in the materials we  
16 have here, assay using a particular substrate.

17 A. That's right.

18 Q. So for some period of years were you  
19 exploring the use of different substrates --

20 A. Yes.

21 Q. -- for the assays?

22 A. Yes.

23 Q. And, in addition to that, along with the  
24 platelet work, were you once in a while asked to do

1 BY DR. LAUFMAN:

2 Q. Doctor, we've been talking about the dry-heat  
3 experiment and the wet-heat experiment involving  
4 factor IX that I believe was done in April and May  
5 of -- and maybe June too of 1972.

6 When you were done with that work, did  
7 you then do some work involving the use of ethylene  
8 oxide?

9 A. Yes.

10 Q. And did you also do some work involving  
11 benzalkonium chloride?

12 A. Yes. Only once or twice.

13 Q. Yes. Those were just small experiments?

14 A. That's right. Yes.

15 Q. They would take a day or less of your time?

16 A. A couple of days, maybe.

17 Q. Okay.

18 DR. LAUFMAN: Let's -- let's go off the  
19 record for a second.

20 THE VIDEO SPECIALIST: Off the video  
21 record at 12:43 p.m.

22 (Discussion off the record.)

23 DR. LAUFMAN: Okay. Let's go back on  
24 the record.

1 an experiment involving factor VIII or factor IX?

2 A. No. Once I entered into platelets research,  
3 I didn't take part in any coagulation factor.

4 Q. All right. Do you remember what year that  
5 was, or is it too long for you to remember?

6 A. I don't remember exactly.

7 Q. Okay. Well, Doctor, the understanding I have  
8 from the materials we've been provided is that after  
9 you did the wet heat and the dry heat work that we've  
10 been discussing involving factor IX, you did some  
11 work on ethylene oxide as an agent.

12 Do you recall that?

13 A. Yes.

14 Q. And, in addition, you did some work, I think,  
15 with an agent called benzalkonium chloride; is that  
16 correct?

17 A. Yes. Yes.

18 MS. GOINS: I'm confused about your  
19 question because I thought you phrased it  
20 after he did his factor VIII and IX work, he  
21 did work with ethylene oxide.

22 DR. LAUFMAN: The work we've -- all  
23 right. I'll restate that.

24

1 THE VIDEO SPECIALIST: We are back on  
2 the video record at 12:44 p.m.

3 BY DR. LAUFMAN:

4 Q. Doctor, let me ask you a couple more things  
5 about the work that you did in 1972 using dry heat  
6 and wet heat on factor IX.

7 A. Yes.

8 Q. The way things were set up, we've already  
9 discussed.

10 A. Yes.

11 Q. You were involved in working with Dr.  
12 Schroeder and Dr. Mozen --

13 A. Yes.

14 Q. -- as you've earlier explained to us.

15 A. Yes.

16 Q. That work was limited to the use of heat with  
17 factor IX, not also with factor VIII, right?

18 A. It was mostly IX, factor IX.

19 Q. Right. Well, as we see in the quarterly  
20 report --

21 A. Yes.

22 Q. -- Exhibit Nine --

23 A. Okay.

24 Q. I'm sorry. Exhibit Eight.

1 -- the dry-heat experiment and the  
 2 wet-heat experiment was limited -- they were limited  
 3 to application to factor IX.  
 4 A. That's right.  
 5 Q. All right. Now, if Dr. Mozen -- well, am I  
 6 correct, sir, that if Dr. Mozen or Dr. Schroeder had  
 7 asked you to do the same sorts of experiments using  
 8 dry heat and wet heat on factor VIII, am I correct  
 9 that you would have then done those experiments on  
 10 factor VIII?  
 11 A. Oh, yes.  
 12 DR. LAUFMAN: Okay. Thank you very  
 13 much.  
 14 We'll pass the witness.  
 15 MR. SPIVEY: That means no more  
 16 questions, in non-technical jargon.  
 17 MS. GOINS: Could we take a break?  
 18 DR. LAUFMAN: Uh-huh.  
 19 THE VIDEO SPECIALIST: We are off the  
 20 video record at 12:45 p.m.  
 21 (Discussion off the record.)  
 22 THE VIDEO SPECIALIST: We are back on  
 23 the video record at 12:51 p.m.  
 24

1 A. Not '72.  
 2 Q. So you would correct your answer that it  
 3 started in '70 and went to '84?  
 4 A. Yes, somewhere.  
 5 Q. Okay. And when you began your work on  
 6 platelets, then you -- did you ever work on factor  
 7 VIII or factor IX again?  
 8 A. No. No.  
 9 Q. Okay. When Cutter received plasma from  
 10 plasma centers, do you know whether all of that  
 11 plasma was used in coagulation products?  
 12 A. They used product from all plasma centers.  
 13 Cutter had contract.  
 14 Q. Right. But when -- when Cutter received  
 15 their plasma --  
 16 A. Yes.  
 17 Q. -- from plasma centers, was all of it used  
 18 for factor VIII and factor IX?  
 19 A. I guess all were used, yes. And when Cutter  
 20 processed plasma, it's a mixture of plasma obtained  
 21 from a number of plasma centers.  
 22 Q. Okay. Did Cutter make any other plasma  
 23 products besides factor VIII and factor IX?  
 24 A. Yes. Gammaglobulin, albumin and plasmanate.

1 BY MS. GOINS:  
 2 Q. Dr. Wada, I want to ask you just a few  
 3 questions --  
 4 A. Yes.  
 5 Q. -- and then I think your deposition will be  
 6 over.  
 7 I think there's some confusion about  
 8 the time periods that you've worked in different  
 9 laboratories at Cutter.  
 10 A. That's right. Yes.  
 11 Q. You testified earlier that you worked in  
 12 platelets from 1970 until your retirement in 1984.  
 13 Do you remember saying that?  
 14 A. Yes.  
 15 Q. And then you've told us that you worked on  
 16 factor IX hepatitis heat-treatment experiments in  
 17 1972.  
 18 A. Yes, '72.  
 19 Q. When you were working on those experiments,  
 20 were you also working with platelets?  
 21 A. No.  
 22 Q. So when you -- go ahead. I'm sorry.  
 23 A. My previous work started much later.  
 24 Q. Okay.

1 MS. GOINS: Okay. Thank you, Dr.  
 2 Wada.  
 3 I have no more questions.  
 4 DR. LAUFMAN: Thank you very much, Dr.  
 5 Wada. We appreciate your time this morning,  
 6 and we have no further questions.  
 7 THE VIDEO SPECIALIST: This concludes  
 8 the videotape deposition of Shohachi Wada,  
 9 Ph.D., on Thursday, March 16th, 1995, at  
 10 approximately 12:53 p.m.  
 11 (Whereupon the deposition concluded at  
 12 12:53 p.m.)  
 13 ---  
 14 TESTIMONY CLOSED  
 15 ---  
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