

September 8, 1976

Mr. Norman J. Latker  
Patent Counsel  
Office of the General Counsel  
Department of Health, Education,  
and Welfare  
Washington, D. C. 20201

Dear Mr. Latker:

Re: Institutional Patent Agreement  
University of Wisconsin - Department of  
Health, Education, and Welfare

This letter and the attachment will comprise the annual report required under the terms and provisions of the above noted agreement for the period from July 1, 1975 through June 30, 1976. Reported are new inventions which have been brought to the Foundation and reported to the Department during the indicated period as well as information regarding inventions for which the Foundation was previously given responsibility under the Institutional Patent Agreement. You will find pertinent information regarding all of these inventions in the attached table.

Very truly yours,

UNIVERSITY OF WISCONSIN

By Reuben H. Lorenz, Vice President and  
Controller

WISCONSIN ALUMNI RESEARCH FOUNDATION

By Howard W. Bremer, Patent Counsel

RHL:HWB:rw  
Enc.

cc--Mr. Lorenz  
Prof. Young  
Mr. Hess  
Pike & Woerpel

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UNIVERSITY OF WISCONSIN-WARF  
DHEW INSTITUTIONAL PATENT AGREEMENT INVENTION REPORT  
July 1, 1975-June 30, 1976

<u>Invention &amp; Grant No.</u>	<u>Inventors</u>	<u>Invention Reported to DHEW</u>	<u>Serial No. Filing Date</u>	<u>Development and Commercial Use</u>	<u>WARF Expenditures (Approx. Estimate)</u>
Method for Reducing Frost Damage of Plants HEW GMO 7215-01	Arny, D. C. Lindow, S. E.	9/2/76	710,414 8/2/76	No contact with industry.	\$ 1,500
Cytokinin Antagonist to Plant Growth Hormone NIH Grant No. GM 12395	Bock, R. M. Hecht, S. M. Skoog, F. K. Schmitz, R. Y.	11/8/71	285,677 9/1/72 (aband. in favor of c-i-p case SN 604173)  604,173 8/13/75	Entered into Option Agreement with Dow Chemical Co. Option Agreement pending with another company (mammalian field).	\$ 7,000 \$ 3,000 (apportioned expense)
24,25-Dihydroxy-cholecalciferol NIH Grant Nos. AM 14881 AM 15512	DeLuca, H. F.	7/6/72	Pat. No. 3715374 issued 2/6/73	Licensed to Upjohn Co., Hoffmann-LaRoche, Roussel Uclaf (France), Leo (Denmark), Chugai (Japan). Other licenses pending.	\$ 1,025 \$ 5,000 (apportioned expense)
25,26-Dihydroxy-cholecalciferol NIH Grant No. AM 05800-08	DeLuca, H. F.	11/16/71	Pat. No. 3739001 issued 6/12/73	Same as above.	\$ 835 \$ 5,000 (apportioned expense)

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1, 24, 25-Trihydroxy-cholecalciferol NIH Grant Nos. AM 14881 AM 15512	DeLuca, H. F.	7/17/73	Pat. No. 3847955 issued 11/12/74	Same as above.	\$ 3,858 \$ 5,000 (apportioned expense)
5, 6-Trans-25-Hydroxycholecalciferol NIH Grant No. AM 15512	DeLuca, H. F. Holick, M. F. Garabedian, M.	2/11/72	Pat. No. 3743661 issued 7/3/73	Same as above.	\$ 1,655 \$ 5,000 (apportioned expense)
1, 25-Dihydroxy-ergocalciferol NIH Grant Nos. 5-PO1-AM 14481 5-PO1-AM 15512	DeLuca, H. F. Jones, G. Schnoes, H. K.	6/13/74	Pat. No. 3880894 issued 4/29/75	Same as above.	\$ 2,879 \$ 5,000 (apportioned expense)
Method of Treating Milk Fever in Dairy Cattle with $1\alpha$ -Hydroxycholecalciferol NIH Grant Nos. 5-PO1-AM 15512 5-PO1-AM 14881	DeLuca, H. F. Jorgensen, N.	6/13/74	Pat. No. 3879548 issued 4/22/75	Same as above.	\$ 1,200 \$ 6,000 (apportioned expense) <sup>1</sup>

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1, 25-Dihydroxy-cholecalciferol NIH Grant No. AMO 5800-10	DeLuca, H. F. Schnoes, H. K. Holick, M. F.	4/8/71	Pat. No. 3697559 issued 10/10/72	Same as above	\$ 7,520 \$ 7,000 (apportioned expense)
1 $\alpha$ -Hydroxycholecalciferol NIH Grant No. AM 15512	DeLuca, H. F. Schnoes, H. K. Holick, M. F. Semmler, E.	12/2/71	Pat. No. 3741996 issued 6/26/73	Same as above.	\$12,378 \$ 7,000 (apportioned expense)
1 $\alpha$ -Hydroxyergocalciferol NIH Grant No. AM 14881	DeLuca, H. F. Schnoes, H. K. Lam, H. Y.	8/28/74	Pat. No. 3907843 issued 9/23/75	Same as above.	\$ 2,457 \$ 5,000 (apportioned expense)
3-Deoxy-1 $\alpha$ -Hydroxycholecalciferol NIH Grant No. AM 14881	DeLuca, H. F. Schnoes, H. K. Lam, H. Y.	8/28/74	Pat. No. 3906014 issued 9/16/75	Same as above	\$ 3,843 \$ 5,000 (apportioned expense)
Rodenticide NIH Grant No. AM 14881	DeLuca, H. F. Schnoes, H. K. Suttie, J. W. Frank, H.	11/10/75	584900 6/9/75	Same as above.	\$ 3,000

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Derivative of T-2 Toxin & Anguidine HEW GRS Grant in Pharmacy #G066	Ellison, R. A. Kotsonis, F. N.	2/6/76	646,647 1/5/76	Testing results indicate invention probably not viable for licensing.	\$ 1,200
Electromagnetic Flowmeters for Blood or Other Conductive Fluids NIH Grant No. HE-97754	Folts, J. D.	9/29/71	Pat. No. 3739640 issued 6/19/73	No commercial interest found. Probably not licensable because of market size and techno- logical factors.	\$ 1,700

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The Preparation and Use of Europium and Prasedoymium Chelates of 3-Tri-Fluor-acetyl D-Camphor and 3-Perflouro-n-butyl D-Camphor Predoctorial Fellow FO-1-GM-41571	Goering, H. L. Eikenberry, J. Koermer, G. S.	9/10/71	Pat. No. 3789060 issued 6/19/73	Licensed to Regis Chemical Co. and Willow Brook Labs. (Compounds being marketed.)  Pat. No. 3789060 involved in interference proceedings. (Government has license regardless of winning party in interference.)	\$14,000
Fluorinated Camphor Derivatives and Europium and Prasedoymium Chelates Thereof Postdoctoral Fellow FO-1-GM-41571	Goering, H. L. Eikenberry, J. Koermer, G. S.	5/23/74	375,614 7/2/73 (Div. of above) Pat. No. 3915641 issued 10/28/75		
Isolation of a Ca <sup>++</sup> -Specific Ionophore from Mitochondria NIH Grant Nos. 5-PO1-GM-12847-09 5-PO1-GM-12847-10	Green, D. E. Blondin, G. A.	2/13/75	No pat. app. filed to date.	Invention awaiting better definition before pat. app. will be filed and commercial interested contacted.	\$ 250

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Process for Preparing 1 $\alpha$ -25-Hydroxy-cholecalciferol (No direct Federal funding - Government given license because of use of material supplied by DeLuca in making invention.)	Matsunaga, I. Ochi, K. Nagano, H. Shindo, M. Ishikawa, M. Kaneko, C. DeLuca, H. F.	2/19/76	657,375 2/12/76	Licensed with DeLuca et al inventions supra.	\$ 3,700
Compensation of Patient Thickness Variations and Differential X-ray Transmission Imaging NIH Fellowship Nos. 5-TO1-CA-05104-10 5-TO1-CA-05104-11	Mistretta, C. Kelcz, F.	1/15/74	Pat. No. 3854049 issued 12/10/74	Further development of invention progressing with contributed help (equipment gift, counsel & labor) from commercial interest.	\$ 5,000
Differential X-ray Method and Apparatus NIH Grant No. 5-TO1-CA-05104-11	Mistretta, C. Kelcz, F.	5/9/75	562,668 3/27/75 (c-i-p of SN 488250 now aband.) Pat. No. 3974386 issued 8/10/76		\$20,000

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Multiplexing of Physiological Sensor Signals with Gamma Ray Camera Data Grant No. PHS HRA 05000196-09	Nickles, R.	7/1/75	586,200 6/12/75 (aband. in favor of c-i-p case SN 690651)	No commercial interest resulting from prior contacts.	\$ 5,000
Correction of Data Loss in Gamma Ray Scintillation Cameras Grant No. PHS HRA 05000196-09	Nickles, R.	6/14/76	690,651 5/27/76		
A Three Dimensional Fast-Coincidence Gamma Imaging System DHEW Grant No. 5-EO3-PE-00196-07	Nickles, R. Meyer, H.	4/3/73	544,883 1/29/75 Pat. No. 3978337 issued 8/31/76	No present commercial interest from new contacts.	\$ 5,500
Regulation of Insect Reproduction and/or Development NIH Grant No. 1-PO6-RR-WO779-01	Norris, D. Bridges, J.	7/3/74	No pat. app. filed to date.	Invention does not appear to be definable for patent purposes.	\$ 300



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Antibiotic Production by Mycoplasma Species IIRP NIH Grant No. 5RO1-A1-10505	Perlman, D. Sylvestre, M. Sakai, T.	9/1/75	623,413 10/17/75	Option Agreement entered into with Abbott Labs.	\$ 3,000
Solid Phase Synthesis of Protected Peptides NIH Grant No. 5-RO1-AM-15507-03	Rich, D. H. Gurwara, S.	12/3/74	575,478 5/7/75	Invention called to attention of a number of companies - no express interest to date.	\$ 4,000
Immobilization of Macromolecules on Tissue NIH Grant No. 5-SO5-RR-07098(07)	Richardson, T.	1/4/74	472,588 5/23/74	Efforts to place invention continuing - no positive results to date.	\$ 2,500
Process for Preparing L-dopa (thru microbiological means) NIH Grant Nos. 5-RO1-AM-04874-09 5-TO1-AM-09688-05 5-SO1-FR-05456-07	Sih, C. J.	9/25/69	Pat. No. 3671397 issued 6/20/72	No commercial interest to date.	\$ 4,000

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Process for Preparing dl-Strigol NIH Grant No. 2-RO1-AM-4874-12	Sih, C. J.	3/11/74	450,950 3/13/74 Pat. No. 3887547 issued 6/3/76	Continuing efforts being made to place invention - no express interest to date.	\$ 2,500
Process for Preparing dl-Strigol NIH Grant No. 2-RO1-AM-4874-12	Sih, C. J.	9/1/75	532,759 12/13/74 (Div. of SN 450,950) Pat. No. 3972916 issued 8/3/76		
Process for Preparing dl-Strigol NIH Grant No. 2-RO1-AM-4874-12	Sih, C. J.	9/1/75	532,325 12/13/74 (Div. of SN 450950) Pat. No. 3954806 issued 5/4/76		

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Prostaglandins and Methods for Preparing Same NIH Grant Nos. A955 & B738	Sih, C. J.	1/28/72	221,058 1/26/72	Licensed to Miles Labs., Alza Corp., Johnson & Johnson, Teijen (Japan), Mitsubishi-Teikoku (Japan).	Gross out-of-pocket expenses for Sih inventions \$79,450
3-Substituted Iodo Alkenyl Compounds NIH Grant No. AMO 4874	Sih, C. J.	9/1/75	504,164 9/9/74 (c-i-p of SN 293442 now aband.) Pat. No. 3962351 issued 6/8/76	Same as above.	
3-Substituted Iodo Alkenyl Compounds NIH Grant No. AMO 4874	Sih, C. J.	9/1/75	504,162 9/9/74 Div. of SN 293442 now aband.) Pat. No. 3962352 6/8/76	Same as above.	

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3-Substituted Iodo Alkenyl Compounds NIH Grant No. AMO 4874	Sih, C.J.	9/1/75	504, 163 9/9/74 (Div. of SN 293442 now aband. ) Pat. No. 2962353 issued 6/8/76	Same as above.	Gross out-of-pocket expense for Sih inventions \$79,450
Method for Prepar- ing 2-Substituted- 4-Hydroxy Cyclo- pentene-1, 3-Diones NIH Grant Nos. AM-9688 AM-4874	Sih, C.J.	9/29/72	293, 457 9/29/72 Pat. No. 3773622 issued 11/20/73	Same as above.	

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Process for Stereospecifically Preparing-Chiral-2-Substituted-4-Hydroxy-2-Cyclopenten-1-One NIH Grant No. AM-4874	Sih, C. J. Heather, J. B.	9/29/72	478,713 6/13/74 (continuation of SN 309766 now aband.) Pat. No. 3986141 issued 7/6/76	Same as above.	Gross out-of-pocket expense for Sih inventions \$79,450
Process for Stereospecifically Preparing-Chiral-2-Substituted-4-Hydroxy-2-Cyclopenten-1-One NIH Grant No. AM-4874	Sih, C. J. Heather, J. B.	With this report	595,767 7/14/75 (Div. of 478713) Aband. 7/24/76	Same as above.	
Process for Stereospecifically Preparing-Chiral-2-Substituted-4-Hydroxy-2-Cyclopenten-1-One NIH Grant No. AM-4874	Sih, C. J. Heather, J. B.	With this report	688276 5/20/76 (Div. of 478713)	Same as above.	

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Glycosides of 2,6-Bis(Hydroxy)-3,7-Dioxabicyclo [3,3,0] Octane Grant No. NIH 2-RO1-AM-09688-11	Sih, C. J.	5/18/76	688,275 5/20/76	Two companies have interest in further evaluation of compounds of the invention - license arrangements will be pursued.	\$ 1,500
Rodenticide NIH Grant No. P-01-AM-14881	Suttie, J. W.	5/28/75	576,347 5/12/75 (c-i-p of SN 359632 now aband. )	No active commercial interest; efforts to license will continue.	\$ 4,500

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Method and Apparatus for Dialysis NIH Grant No. GM-16133	Updike, S. J.	3/27/73	Pat. No. 3846236 Issued 11/5/74	Commercial interest continuing evaluation of inventions.	\$ 9,500
Method and Apparatus for Dialyzing Carbon Dioxide from Blood Plasma NIH Grant No. GM-16133	Updike, S. J.	3,27/73	295,264 10/5/72 (c-i-p of SN 191720) Pat. No. 3953329 issued 4/27/76		
Catalyst Containing Semi-Permeable Membrane for Respiratory Gas Exchange by Dialysis NIH Grant No. GM-16133	Updike, S. J.	5/15/74	434,231 1/17/74 (c-i-p of SN 191720)		

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Device and Method for Sample Application by Water Regain of a Gel NIH Grant Nos. GM-16133 GM-70157	Updike, S.J.	1/4/74	356092 5/1/73	Licensed to Squibb, Union Carbide, & Ames Labs - investigative activities by Licensees toward commercial use of invention have decreased in past year. Efforts are continuing to find other licensees.	\$22,500
Method for Immunological Determinations NIH Grant Nos. GM-16133 GM-70157	Updike, S.J.	5/15/74	437,135 1/28/74 (c-i-p of SN 356092 now aband.)		
The Preparation of Dry, Porous Gel Particles Having High Water Regain or Liquid Sampling NIH Grant Nos. GM-16133 GM-70157	Updike, S.J.	1/4/74	356,093 5/1/73 Pat. No. 3925017 issued 12/9/75		
Reagent for Immunological Determinations NIH Grants He-09922 GM-16133 K3-HE-18184	Updike, S.J.	4/29/70	Pat. No. 3793445 issued 2/19/74		



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INVENTIONS ON WHICH DHEW WAIVED RIGHTS TO NATIONAL SCIENCE FOUNDATION

Sentization of Radio thermoluminescence in Dosimetry Grade LiF by Simultaneous Annealing and Ultra-violet Illumination NIH Grant No. 5-TO1-CA05105-11 NSF Grant No. 74-52-GH 34585	Mayhugh, M. Fullerton, G.	2/22/74	523,322 11/13/74 Pat. No. 3962586 issued 6/8/76	Potential commercial interest exhausted.	\$ 3,500
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INVENTIONS ON WHICH NSF WAIVED RIGHTS TO DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

The Production of Radiation Induced Thermally Activated Current (RITAC) Devices by Selective Purification of Dielectric Solid Material NIH Grant No. 5-TO1-CA-05104-10 & 11 NSF Grant No. GH-34585	Moran, P. R. Podgorsak, E. Fullerton, G. Fuller, G. E.	3/18/74	497,874 8/16/74 Pat. No. 3935457 issued 1/27/76	Discussions continuing with potential licensee - licensing appears probable.	\$ 7,000
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<u>JOINTLY REPORTED INVENTIONS</u> <u>DHEW INSTITUTIONAL PATENT AGREEMENT</u> AND <u>NSF INSTITUTIONAL PATENT AGREEMENT</u>					
Oxidative Decarboxylation of Carboxylic Acids NIH Grant No. 5-RO1-GM-13598 NSF Grant No. 76-1-MPS-03396	Trost, B. M. Tamaru, Y.	3/18/75	578,533 5/19/75	Nature of process brought to attention of several companies - no commercial interest expressed.	\$ 1,800
Stereocontrol in Allylic Alkylation Catalyzed by Palladium NIH Grant No. 5-RO1-GM-13598 NSF Grant No. 76-1-MPS-03396	Trost, B. M. Verhoeven, T.	2/6/76	646,640 1/5/76	No industry contact to date.	\$ 1,500