FCR 14

Office of the President
December 14, 2004

Members, Board of Trustees:

PATENT ASSIGNMENT REPORT

Recommendation: that the patent assignment report for the period September 1, 2004 through October 31, 2004 be accepted.

Background: FCR 5 dated March 4, 1997 authorized that all future copyright and patent filings and prosecutions be conducted by the University of Kentucky Research Foundation (UKRF), and that the Vice President for Research and Graduate Studies or his designee be authorized to execute any needed documents to obtain appropriate patent or copyright protection. Quarterly reports on patent and copyright applications are to be submitted to the Finance Committee of the Board.

Action Taken: ☑ Approved ❑ Disapproved ❑ Other _____

PATENT ASSIGNMENT
QUARTERLY FOR THE PERIOD SEPTEMBER 1, 2004 THROUGH
OCTOBER 31, 2004

Patents

The following assignments on behalf of the Board of Trustees of the University of Kentucky Research Foundation have been executed:

1. U.S. Patent Application Serial Number: (to be assigned), filed September 1, 2004, titled "METHOD FOR THE GENERATION OF GREEN-NOTE COMPOUNDS" Inventors: Dr. David Hildebrand and Dr. Hirotada Fukushige. The present invention provides methods and systems for generating green-note compounds, particularly leaf aldehyde, (2E)-hexenal. The methods include the use of plants with enhanced hydroperoxide lyase (HL) activity and soybean seed meal or flour from soybean lipoxygenase mutants to enhance (2E)-hexenal production.

   Drs. Hildebrand and Fukushige have invented methods and systems for generating green-note compounds. These green-note compounds are used in food and beverage flavorings to impart a green character and freshness. Presently, green-note compounds are either chemically synthesized or produced from homogenates of watermelon leaves. This method of producing green-note compounds utilizes homogenates of leaves and soy meal to increase the yield of the green-note compounds.

2. U.S. Patent Application Serial Number: (to be assigned) filed July 23, 2004, titled "NOVEL ORAL BIOAVAILABLE PRODRUGS" Inventors: Dr. Peter A. Crooks, Dr. Mohamed O. Hamad, and Dr. Audra L. Stinchcomb. The invention is directed to forming duplex prodrugs that provide a significant increase in the transdermal flux of drugs across human skin. The prodrugs are prepared by reacting a drug that can form an ester moiety with phosgene to form a carbonate. The drug can be an opiate or an opiate antagonist. When in contact with human skin, the duplex drug is biotransformed by enzymes or by hydrolysis into two drug molecules.

   Drs. Crooks, Hamad, and Stinchcomb have invented novel chemicals that improve the therapeutic activity of drugs delivered through the skin.

3. U.S. Patent Application Serial Number: (to be assigned) filed July 28, 2004, titled "PRIMERS AND PROBE TO IDENTIFY MYCOBACTERIUM TUBERCULOSIS COMPLEX" Inventors: Dr. Subodh N. Lele, Dr. Manjiri S. Lele, and Dr. Nada H. Khattar. The present invention provides methods and nucleic acids for rapid, reliable, and sensitive detection of *Mycobacterium tuberculosis* (MTB) complex pathogen in a biological sample. Oligonucleotides are provided to amplify MTB DNA and which help carry out real time PCR of DNA obtained from formalin-fixed and paraffin-embedded tissue samples.

Drs. S. Lele, M. Lele, and N. Khattar have invented methods and chemicals for rapid, reliable, simple, and highly sensitive detection of the bacteria that cause tuberculosis.

4. U.S. Patent Application Serial Number: (to be assigned), filed September 1, 2004, titled "TAT AS AN IMMUNOGEN" Inventor: Dr. Avindra Nath. The present invention provides a non-denatured, recombinant human immunodeficiency virus (HIV) Tat that is free of bacterial RNA and endotoxin, and is employed in an anti-HIV vaccine. A process of producing the recombinant Tat protein includes steps for removing bacterial RNA from the recombinant Tat and for removing endotoxin from the recombinant Tat protein. The present invention also provides a Tat-adsorbed nanoparticle formulation and method of making the same. The present invention also provides a method of vaccinating against and/or treating HIV infection which comprises administering to a subject in need of such vaccination or treatment an immune response inducing an effective amount of the recombinant Tat protein.

   Dr. Avindra Nath has invented an anti-HIV vaccine for vaccinating against and/or treating HIV infection.

Patent Activities
Fiscal Year to date as of October 31, 2004

Number of Patent Applications	7
Number of Patents Issued	2
Patent Income	$275,874.