

FCR 37

Office of the President
June 9, 2009

Members, Board of Trustees:

PATENT ASSIGNMENT REPORT

Recommendation: that the Board of Trustees accept the patent assignment report for the period January 1 through March 31, 2009.

Background: At its March 4, 1997 meeting, the Board of Trustees authorized the University of Kentucky Research Foundation to conduct all future copyright and patent filings and prosecutions. 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 THROUGH MARCH 31, 2009

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: October 29, 2008
Title: “Methods and Pharmaceutical Compositions for Decorporation of Radioactive Compounds”
Inventor: Dr. Michael Jay (CPST)
Technical Description: This invention relates to chelating agents and to related methods for utilizing those agents in pharmaceutical compositions to decorporate or remove transuranic or other radioactive elements and compounds from mammals such as humans.
Summary: The inventor has developed new drug compounds for the treatment of radiation poisoning. Previously, the drug compounds could only be administered intravenously or through inhalation. The inventor has developed compounds for oral administration.
- 2. U.S. Patent Application Serial Number: (to be assigned)**
Filed: January 14, 2009
Title: “Method for Screening for a Tobiano Coat Color Genotype”
Inventors: Drs. Ernest Bailey and Samantha A. Brooks (Veterinary Science)
Technical Description: The invention relates to detection or screening for genotypes for coat color patterns. In particular, the invention relates to screening for the genotype for the tobiano coat color pattern in horses. The method relies on detection of a chromosome inversion on horse chromosome 3.
Summary: Tobiano is a white spotting pattern in horses that is highly valued by horse owners and breeders. Horses that inherit the tobiano pattern from both parents are more valuable than horses inheriting the pattern from only one parent. Prior methods of determining whether both parents contributed to a horse’s tobiano pattern are expensive and difficult. The inventors have developed a method of testing that is less expensive and easier.
- 3. U.S. Patent Application Serial Number: (to be assigned)**
Filed: January 22, 2009
Title: “Altered Sumoylation of Lamin-A Protein Associated with Dilated Cardiomyopathy”
Inventor: Dr. Kevin Sarge (Biochemistry)
Technical Description: This invention relates to methods of diagnosing dilated cardiomyopathy using analysis of the lamin-A protein and sumoylation of same, as well as methods for treating cardiomyopathy, comprising enhancing the sumoylation of the lamin-A protein in a subject in need of the treatment.

Summary: Dilated cardiomyopathy is a common heart disease in which the heart becomes weakened and enlarged. The inventor has discovered that dilated cardiomyopathy is related to the affected person's failure to properly process lamin-A, a protein found in human cells. The inventor has discovered that early detection of cardiomyopathy can be accomplished by identifying the failure to properly process lamin-A in a person not yet exhibiting symptoms. The inventor also has discovered that correcting the deficiency in lamin-A should successfully treat dilated cardiomyopathy.

4. **U.S. Patent Application Serial Number: (to be assigned)**

Filed: January 30, 2009

Title: "Liposomal Formulations of Hydrophobic Lactone Drugs in the Presence of Metal Ions"

Inventors: Drs. Vijay Joguparthi and Bradley Anderson (Pharmaceutical Sciences)

Technical Description: This invention relates to liposomal formulation with metal ions and methods of using said formulation to deliver pharmaceutically effective amounts of hydrophobic lactone drugs.

Summary: Liposomes are hollow spherical droplets that dissolve in water. Drugs not otherwise soluble in water can be made soluble by encapsulating the drugs within spherical liposomes, making the drugs easier to administer. The inventors have developed a formulation of lactone drugs (a class of insoluble cancer drugs) using metal ions, making the drugs easily loadable into liposomes and thus improving the method of delivering lactone drugs to cancer patients.

5. **U.S. Patent Application Serial Number: (to be assigned)**

Filed: January 30, 2009

Title: "Prolonged Release of Hydrophobic Lactone Drugs from Liposomes by Entrapment of Drug-Cyclodextrin Complexes at Varying Intraliposomal"

Inventors: Drs. Vijay Joguparthi and Bradley Anderson (Pharmaceutical Sciences)

Technical Description: This invention relates to the liposomal formulation with cyclodextrin and methods of using said formulation to deliver pharmaceutically effective amounts of hydrophobic lactone drugs.

Summary: Drugs not otherwise soluble in water can be made soluble by encapsulating the drugs within spherical liposomes, making the drugs easier to administer. The inventors have developed a formulation of lactone drugs (a class of insoluble cancer drugs) using cyclodextrin, making the drugs easily loadable into liposomes and thus improving the method of delivering lactone drugs to cancer patients.

6. **U.S. Patent Application Serial Number: (to be assigned)**

Filed: February 24, 2009

Title: “Gene Expression Profile Biomarkers and Therapeutic Targets for Brain Aging and Age-related Cognitive Impairment”

Inventors: Drs. Philip Landfield, Eric M. Blalock and Kuey-Chu Chen (Molecular and Biomedical Pharmacology), and Thomas C. Foster (Pharmacy Practice and Science)

Technical Description: This invention relates generally to genetic algorithms, and more particularly to the identification of gene expression profile biomarkers and therapeutic targets for brain aging.

Summary: Prior work has identified genes associated with cognitive decline in aging humans. The inventors have developed a method of assessing the impact of various treatments for cognitive decline on the activity of these genes. The method should prove useful in identifying effective treatments for cognitive decline in aging.

7. **U.S. Patent Application Serial Number: (to be assigned)**

Filed: March 6, 2009

Title: “Cannabinoid-containing Compositions and Methods for Their Use”

Inventors: Drs. Audra Stinchcomb (Pharmaceutical Sciences) and Karin Westlund High (Physiology)

Technical Description: The invention relates to the transdermal delivery of cannabinoids. More particularly, the invention relates to methods and materials for transdermally delivering cannabinoids, particularly cannabidiol, to treat symptoms such as inflammation, pain and discomfort associated with or caused by traumatic injury or disease conditions including strains, sprains, contusions, and arthritis--particularly osteoarthritis.

Summary: The compound cannabidiol has been found to be 360 times more effective than aspirin in reducing pain and inflammation. Because the topical application of pain relievers allows one to target a specific area of the body, the inventors have formulated cannabidiol for topical application.

8. **U.S. Patent Application Serial Number: (to be assigned)**

Filed: March 13, 2009

Title: “Methods for Treating Cancer with Thiaminase”

Inventors: Drs. Jeffrey Moscow and Shuqian Liu (Pediatrics - Hematology and Oncology), and Younsoo Bae and Noel Monks (Pharmaceutical Sciences)

Technical Description: This invention relates to a method of treating cancer with thiaminase in combination with an anti-cancer agent and/or radiation.

Summary: While all cells require the vitamin thiamine to survive, cancer cells have an unusually high dependence on thiamine. The enzyme thiaminase destroys cellular thiamine. The inventors have utilized these relationships to develop a method of treating cancer, wherein thiaminase is administered to reduce thiamine levels below those needed for cancer cells to survive, but still above the levels needed for the survival of normal cells.

9. **U.S. Patent Application Serial Number: (to be assigned)**

Filed: March 24, 2009

Title: “Intranasal Opioid Compositions, Delivery Devices, and Methods of Using Same”

Inventor: Dr. Daniel Wermeling (Pharmacy Practice and Science)

Technical Description: This invention relates to the formulation of opioid compositions for nasal delivery, delivery devices, and methods of using same.

Summary: Opioids are a major class of drugs used to treat pain. Opioids are primarily administered by injection. The inventor has formulated Opioids for delivery through nasal inhalation.

Patent Activities

Fiscal year to date as of March 31, 2009

Number of Patent Applications	29
Number of Patents Issued	11
Patent Income	\$1,498,742