

FCR 13

Office of the President
June 8, 2010

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, 2010.

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, 2010

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: January 6, 2010
Title: “Gene Expression Modulation System for Use in Plants and Method for Modulating Gene Expression in Plants”
Inventors: Drs. Subba Palli (Entomology) and Ajay Singh (Plant Pathology)
Technical Description: The invention relates to the field of gene expression, and, specifically, to chemically-inducible systems which activate or inactivate gene expression in host plant cells.
Summary: The function of many plant genes remains unknown. One method for studying the function of plant genes is to develop an artificial mechanism for turning the expression of the genes on or off, and observing the resulting change in plant physiology. The inventors have developed an efficient artificial method of turning plant genes on or off.
- 2. U.S. Patent Application Serial Number: (to be assigned)**
Filed: January 11, 2010
Title: “Method of Supplementing the Diet and Ameliorating Oxidative Stress”
Inventors: Drs. Boyd Haley and Niladri Narayan Gupta (Chemistry)
Technical Description: This invention relates to the field of dietary supplements for mammals, and, specifically, to methods reducing oxidative stress through dietary supplementation.
Summary: Oxidation is a naturally occurring chemical reaction which has the capacity to injure or kill the cells of living tissues. Exposure to heavy metals such as mercury and lead can drastically increase the amount of harmful oxidation in tissue. The inventors have developed a class of compounds which, when ingested, can bind and promote the excretion of heavy metals from the body, decreasing the amount of harmful oxidation.
- 3. U.S. Patent Application Serial Number: (to be assigned)**
Filed: February 5, 2010
Title: “Polypeptide Systems and Methods Useful for Detecting Glucose”
Inventors: Dr. Sylvia Daunert, Kendrick Turner, Smita Joel, and Laura Rowe (Chemistry).
Technical Description: This invention relates generally to biosensors, and systems and methods of detecting glucose.
Summary: Diabetes is a common disease having widespread and severe health consequences. Management of the disease requires careful monitoring of glucose levels in the patient. Currently, glucose is measured in blood obtained by finger prick and other

painful methods. The inventors have developed a method of detecting blood glucose levels within the patient without requiring the patient to draw a blood sample.

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

Filed: February 5, 2010

Title: “Semi-synthetic Antibodies as Recognition Elements”

Inventors: Drs. Sylvia Daunert, Leonidas Bachas, Boyd Haley, and Smita Joel (Chemistry)

Technical Description: This invention relates to detection of molecules of interest continuously in a living organism.

Summary: There are many applications where the detection of molecules in a biological sample is useful, such as detecting pathogens in a sample from a medical patient. Currently, such detection requires isolating a sample from the patient, followed by detection of the pathogen in the sample. The inventors have developed a method of detecting molecules of interest directly in the patient, without the need for isolating a sample first.

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

Filed: February 18, 2010

Title: “A Method for Producing Fuel Briquettes from High Moisture Fine Coal or Blends of High Moisture Fine Coal and Biomass”

Inventor: Dr. Darrell N. Taulbee (Center for Applied Energy Research)

Technical Description: This invention relates to fuel products and a process for making fuel products from coal fines.

Summary: The commercial preparation of coal produces copious small particles of coal (a.k.a. coal fines) which are typically discarded as waste. The inventor has discovered a method of forming coal fines into briquettes, which can be sold as fuel.

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

Filed: March 2, 2010

Title: “Methods for Predicting Cancer Response to EGFR Inhibitors”

Inventors: Drs. Esther Black and Justin Balko (Pharmaceutical Sciences)

Technical Description: This invention relates to biomarker profiling of samples obtained from carcinoma subjects who are candidates for treatment with therapeutic EGFR inhibitor. More specifically, this invention relates to biomarker profiling which allows one skilled in the art to predict whether a patient is likely to respond well to treatment with an EGFR inhibitor.

Summary: Some skin cancers are effectively treated by blocking EGFR, a receptor for a growth factor found in the skin. However, it is generally not known before treatment whether a patient will respond to blocking EGFR. The inventors have invented a method of determining which patients will respond to blocking EGFR. The method involves determining the RNA profile of the skin cancer for patterns predictive of the effectiveness of the treatment.

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

Filed: March 3, 2010

Title: “Systems and Methods for Diagnosis and Monitoring of Bacteria-Related Conditions”

Inventors: Drs. Sylvia Daunert, Sapna Deo, Patrizia Pasini, Anjali Kumari, Harohalili Shashidhar, Deborah Auer Flomenhof, Nilesh Raut (Chemistry)

Technical Description: The present invention relates to diagnosing and monitoring conditions of interest, specifically bacteria-related conditions.

Summary: Bacteria release chemicals, known as “quorum sensing molecules” (QSM), which serve to communicate information about bacterial concentration. The inventors propose assessing the activity of infectious bacteria in human patients by measuring their QSM level.

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

Filed: March 3, 2010

Title: “Spores for the Stabilization and On-site Application of Bacterial Whole-cell Biosensing Systems.”

Inventors: Drs. Sylvia Daunert, Sapna Deo, Patrizia Pasini, Amol Date (Chemistry)

Technical Description: The invention relates to biosensors for detecting analytes of interest. In particular, the invention relates to biosensors comprising spore forming bacterial cells and/or spores generated from the spore-forming bacterial cells.

Summary: Bacterial cells have been genetically engineered to detect substances in the environment, such as toxins. These bacteria, however, are difficult to store, since they can only survive in a narrow range of environmental conditions. The inventors have genetically engineered spore forming bacterial cells to detect substances. Spores permit the survival of bacteria in harsh conditions, so the genetically engineered bacteria of this invention can be stored in harsh environmental conditions.

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

Filed: March 25, 2010

Title: “Aromatic Compounds with Sulfur Containing Ligands”

Inventor: Dr. Boyd Haley (Chemistry)

Technical Description: This invention relates to novel aromatic compounds useful as nutritional supplements, antioxidants, heavy metal chelators and/or as intermediates for producing other useful compounds of this type.

Summary: Living organisms naturally produce reactive oxygen. When an organism does not have sufficient ability to detoxify the products of reactive oxygen, oxidative stress occurs. Oxidative stress is involved in many diseases, such as atherosclerosis, Parkinson's disease, heart failure, myocardial infarction, and Alzheimer's disease. The inventor has developed a class of chemical compounds which, when taken as a dietary supplement, can counteract oxidative stress.

Patent Activities

Fiscal year to date as of March 31, 2010

Number of Patent Applications	25
Number of Patents Issued	16
Patent Receipts	\$1,274,504