

Technology Transfer & Intellectual Property News

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Recently Issued Patent

University of Kansas at Lawrence

Amino acid-derived, 7-membered cyclic sulfamides and methods of synthesizing the same

Paul R. Hanson, Ph.D., Joseph M. Dougherty and Donald A. Probst

Small peptides are excellent starting points for drug design because they have the potential to overcome the pharmacokinetic shortcomings of larger peptides, yet retain the desirable quality of molecular recognition. A number of dipeptides are currently being developed by various scientists as novel pharmaceutical agents. Unfortunately, even small peptides suffer from proteolytic instability, which limits their use as drug candidates. The patented invention is directed towards new sulfamide compounds and methods of forming those compounds via ring-closing metathesis reactions carried out in the presence of a ring-closing catalyst such as an olefin metathesis catalyst (e.g., a Grubbs catalyst). Sulfamides are unique functional groups that have been exploited in the development of a number of novel pharmaceutical agents and synthetic ligands. Their ability to serve as urea surrogates have made them ideal functional groups for the development of novel peptidomimetics, while their chelating ability has made them ideal for the development of novel ligands for asymmetric catalytic reactions. This diverse set of properties has made them important targets in the development of new chemical entities. The compounds have a number of uses including as inhibitors of enzymes such as HIV proteases.

New Invention Disclosures

University of Kansas Medical Center

Nancy Berman, Ph.D. and Edward Stephens, Ph.D.

The invention describes the identification of a growth factor in the brains of macaques that developed neuroAIDS following inoculation with a pathogenic simian human immunodeficiency virus (SHIV). The inventors have shown that the protein is expressed in the brains of normal and diseased macaques but appears to be elevated in the disease state. Furthermore, the protein has been shown to be expressed in the neurons of the cerebral cortex. Experiments have shown that this protein is unregulated in brain tissue in association with neuron survival. Previous studies on this protein have shown it to be unregulated in certain types of cancer. The presence and upregulation of this protein in other neurodegenerative diseases may provide avenues for development of therapeutic agents for these diseases.

University of Kansas at Lawrence

Judy Wu, Ph. D.

Scanning probe microscopy (SPM) has been an emerging field in the nano-sciences and material research areas. During the past two decades, various SPM probes have been developed to image/map certain physical properties of a sample at nanometer resolution. However, most of these probes can only detect one type of physical property at a time. The invention is a new device that can be used for surface characterization of a large variety of samples including superconductors, semiconductors, metals, ferroelectrics, dielectric materials, etc. The device is a probe that can be brought to a close

vicinity of the sample surface so as to measure the physical properties of sample near the probe. With the probe, electric signals can be directed to a very small area, defined by the tip of the probe, on the sample to generate local excitations. Measurements of these local excitations allow extraction of the physical properties of the sample.

KU Lawrence Highlighted Start-up Company

Veatros, LLC. This company specializes in software systems to monitor the broadcasts of television commercials using digital video processing technology developed in ITTC. Their primary product "VidWatch" enables international broadcasters to detect local commercial insertions by cable operators and gather valuable marketing information. VidWatch was licensed in 1998 to Turner Broadcasting System to perform video authentication and commercial detection of international broadcasts throughout Latin America. Founded: 2002. Location: Lawrence, Kansas.

Executive Director's Corner

The FY 2000 Association of University Technology Manager's Survey Summary has just been released. One hundred ninety (190) U.S. and Canadian universities, teaching hospitals, research institutes, and patent commercialization companies responded to the survey. Eighty-eight (88) institutions indicated that at least 347 new commercial products were introduced to the marketplace in fiscal year 2000, under license agreements with commercial partners. Two-thirds (66%) of the total 4,362 new licenses/options were granted to companies with less than 500 employees, enabling these companies to grow and become more competitive. Six hundred twenty-six of the licenses went to 454 start-up companies created to develop and commercialize the results of academic research.

One example of a new commercial product was a revolutionary rotator cuff repair alternative, developed at Purdue University. Purdue University and DePuy Orthopedics, a Johnson and Johnson company, have found a unique way to reinforce damage tendons. A team at Purdue created a biopatch implant that, when used to reinforce the patient's own tissue, offers surgeons a better option in rotator cuff repair. The orthobiologic implant is a wafer-thin biopatch made from pig's small intestines, or porcine small intestine submucosa. The implant is now available for commercial distribution and potential use in more than 300,000 rotator cuff surgeries performed annually in the United States.

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