

Careers in Patent Law

Carla Ji-Eun Kim

Patent Attorney
Sterne, Kessler, Goldstein & Fox P.L.L.C.
1100 New York Ave., N.W.
Washington, D.C. 20005
ckim@skgf.com



Strategists and Advisors
specializing in the protection,
transfer and enforcement of
Intellectual Property Rights.



Patents

- **3 Types of patents**
 - **Utility**
 - **Design**
 - **Plant**
- **Exclusionary right**
 - **Exclude others from making, using, selling, offering to sell, or importing invention**

protect
ideas
increase
value

Patents (continued)

- Issued U.S. patents and published applications are freely available on the U.S. Patent and Trademark (USPTO) website.

- <http://patft.uspto.gov/>

protect
ideas
increase
value



US0694611612

(12) **United States Patent**
Kung et al.

(40) Patent No.: **US 6,946,116 B2**
(45) Date of Patent: ***Sep. 20, 2005**

(54) **AMYLOID PLAQUE AGGREGATION INHIBITORS AND DIAGNOSTIC IMAGING AGENTS**

(75) Inventors: **Hank F. Kung, Wyncosset, PA (US); Mu-Ping Kung, Wyncosset, PA (US); Zhi-Ping Zhuang, Lausdick, PA (US)**

(73) Assignee: **The Trustees of the University of Pennsylvania, Philadelphia, PA (US)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) App. No.: **10739,217**
(22) Filed: **Dec. 19, 2003**
(65) **Prior Publication Data**
US 2004/011245 A1 Jul. 8, 2004

Related U.S. Application Data

(63) Continuation of application No. 10/122,678, filed on Apr. 28, 2002, now Pat. No. 6,969,839.
(60) Provisional application No. 60/285,282, filed on Apr. 23, 2001.

(51) Int. Cl.⁷ **A61M 36/14**
(52) U.S. Cl. **4241.189; 424 1.11; 424 1.65; 424 1.81; 424 1.85; 511.235; 516 300.1**

(58) **Field of Search** 424 1.11, 1.65, 424 1.81, 1.85, 1.89, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 534.7, 10 16; 548 300.1, 301.7, 302.7, 540.1, 544 224, 233, 235, 180, 182, 183

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,891,500 A 2/1999 Itohama et al.
6,047,473 A 3/2000 Dik et al.
6,168,736 B1 1/2001 Khokh et al.
6,670,189 B2 3/2001 Kung et al.

FOREIGN PATENT DOCUMENTS

JP 01029418 A1 6/1996
WO 01/06469 A1 3/1999
WO 01/21886 A1 11/1997
WO 01/27207 A1 4/1998
WO 01/24194 A2 5/1999
WO 02/08503 A2 10/2002

OTHER PUBLICATIONS

Asburn, T. L., et al., "Amyloid probes based on Congo Red disubstituted peptide fibrils comprising dipeptide peptides," *Chem. Biol.* 3:351-358, Current Biology, Ltd. (1996).
Berge, S.M., et al., "Pharmaceutical Salts," *J. Pharm. Sci.* 66: 1-19, American Pharmaceutical Association (1977).
Bettin Strzalko, T., and Seyden-Penne, J., "La réaction de Wittig-Horner à partir de phosphonate benzoylique, terme finale la synthèse de stibiacés?" *Bull. Soc. Chim. Fr. (3. S. Pp. 2)161-16A, Baysaux Société Française De Chimie* (1983).
Bettin-Strzalko, T., and Seyden-Penne, J., "Gulfic acid-stibine: benzene prepared from benzyle phosphonate by a Wittig-Horner reaction?" *C'Apus, Accession No. 1984-57074* (1984).
Deautter, N.A., et al., "Preparation and biological evaluation of technetium-99m-Tc-propyleneoctadiene," *J. Labelled Cpt. Radiopharm.* 42:553-565, John Wiley & Sons, Ltd. (1999).
Deautter, N.A., et al., "99mTc MAMA chrysanthins G, a probe for beta-amyloid protein of Alzheimer's disease," *Eur. J. Nucl. Med.* 26:1392-1399, Springer Verlag (1999).
Elshidiawi, A., et al., "Competition of Congo Red and Thioflavin S Binding to Amyloid Fibrils in Alzheimer's Disease," *Tissue, Bioprecognition* 1:351-356, John Wiley & Sons, Ltd. (1995).
Fiker, R. et al., "Synthesis of fluoromethylacetyl acids and their derivatives," *J. Econ. Chem.* 74:69-75, Elsevier (1995).
Finkels, M.A., "Approaches to discovery and characterization of inhibitors of amyloid β -amyloid polymerization," *Biochem. Biophys. Acta* 1502:76-81, Elsevier Science B.V. (Jul. 2000).
Ginsberg, S.D., et al., "Molecular Pathology of Alzheimer's Disease and Related Disorders," in *Cerebr. Cortex*, Pictus, A., and Morrison, J.F., eds., Kluwer Academic/Plenum Publishers, New York, NY, pp. 613-651 (1999).
Goddie, T.J., et al., "Biochemical detection of A β isoforms: implications for pathogenesis, diagnosis, and treatment of Alzheimer's disease," *Biochim. Biophys. Acta* 502:172-187, Elsevier Science B.V. (Jul. 2000).
Han, H., et al., "Technetium Complexes for the Quantitation of Brain Amyloid," *J. Am. Chem. Soc.* 118:4506-4507, American Chemical Society (1996).
Katz, J.L., et al., "Synthesis and Properties of Optically Active Helical Metallosteric Oligomers," *J. Am. Chem. Soc.* 115:3182-3198, American Chemical Society (1993).
Kunk, M.L., et al., "Quantitative Evaluation of Congo Red Binding to Amyloid- β Peptides with a Heterophilic Sheet Contamination," *J. Biochem. Biophys.* 37:1273-1281, Histochemical Society, Inc. (1989).
(Continued)

Primary Examiner—Dimitrie L. Jones
(74) Attorney Agent, or Firm—Sterne, Kessler, Goldstein & Fox P.L.L.C.

(57) **ABSTRACT**

This invention relates to a method of imaging amyloid deposits and to labeled compounds and methods of making labeled compounds useful in imaging amyloid deposits. This invention also relates to compounds and methods of making compounds for inhibiting the aggregation of amyloid proteins to form amyloid deposits, and a method of delivering a therapeutic agent to amyloid deposits.

16 Claims, 2 Drawing Sheets

Sterne, Kessler, Goldstein & Fox

protect
ideas
increase
value

- Legal pioneer in high tech IP law for 30 years
- Legal staff comprised of highly-trained scientists and engineers, including over 50 Ph.D.s
- Serve clients throughout the United States and across the globe from our Washington, D.C. office
- D.C. presence gives us immediate access to:
 - USPTO
 - Federal Circuit
 - Supreme Court
 - Congress
 - International Trade Commission
 - Solicitor General

SKGF (continued)

- Biotech / Chemical / Pharma Practice Group:
 - 17 Directors
 - 33 Associates & Of Counsel
 - 6 Student Associates
 - 11 Patent Agents & Technical Specialists
- Industries serviced include:
 - Pharmaceutical (New Chemical Entities, New Methods of Chemical Synthesis, Drug Design Platforms, Drug Screening and Assays, Formulations, New Therapeutic Methods, In Vivo Diagnostics, Medical Imaging and Contrast Agents)
 - Biotechnology (Molecular and Cell Biology, Nanomedicine, Agrochemicals, Pharmacogenomics, Vaccines, Bioprocessing and Biofuels, Therapeutic Antibodies, Biodefense, Nutraceuticals, Biologics and Biosimilars, Stem Cells)
 - Chemical (Analytical Chemistry, Environmental Chemistry, Organic Synthesis, Nutraceuticals, Food Chemistry, Pesticides & Herbicides, Nanotechnology, Coatings, Ceramics, Polymers, Fuel Additives, Paints and Abrasives)

protect
ideas
increase
value

Patent Positions

- Law Firms:
 - Technical Advisor or Technical Specialist
 - Patent Agent
 - Student Associate
 - Associate
 - Partner (Director)
 - Of counsel
- Corporate Patent Attorney (in-house counsel)
- Examiner at the U.S. Patent and Trademark Office

protect
ideas
increase
value

Becoming a Patent Attorney

1. Must be a law school graduate and pass state bar exam
2. Must pass the USPTO Patent Bar Examination

Prerequisites for the Patent Bar Exam (www.uspto.gov):

- Must have a bachelor's degree in chemistry, biology, engineering or related science
- Must be of good moral character

Functions of a Patent Attorney

- Draft license and assignment agreements
- Review other people's patents and provide opinions
- Interferences
- Litigation

protect
ideas
increase
value

Client Has a Problem - We Find a Solution

- Clients include:
 - Small start-up biotech companies
 - Mid-sized pharmaceutical companies
 - Large generic companies
 - Universities and research institutions

protect
ideas
increase
value

Any Questions?

Visit us at
www.skpf.com

Helpful links:

- <http://aipla.org/>
- www.uspto.gov
- www.martindale.com
- www.nationalbar.org/index2.shtml
- <http://careers.findlaw.com/>

protect
ideas
increase
value