Ananth Annapragada, Ph.D.
Professor & Vice-Chair for Research
The Texas Children's Hospital Department of Radiology
Professor, Obstetrics and Gynecology
Member, Dan L. Duncan Comprehensive Cancer Center
Director, Translational Imaging Group: TIGr
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Undergraduate Education: B.Tech, (Chemical Engineering) A.C. College of Technology, Chennai India, 1984.

Graduate Education: Ph.D., (Chemical Engineering) University of Michigan, Ann Arbor, Michigan, 1989

Post-Graduate Training:
Post Doctoral Associate, University of Minnesota Center for Interfacial Engineering, 1989.
Post Doctoral Associate, Massachusetts Institute of Technology, 1989-1990.

Academic Appointments:

- Vice-Chair for Research in Radiology, 2020-present
- Professor of Obstetrics and Gynecology (by courtesy) 2020-present
- Member, Dan L. Duncan Comprehensive Cancer Center, 2012-present
- Professor and Director of Basic Research in Radiology, Baylor College of Medicine and Texas Childrens Hospital, 2011-Present
- The Robert H. Graham Professor, UTHSC School of Biomedical Informatics, 2010-2011
- Associate Professor, UTHSC School of Health Information Sciences, 2003-2009, Tenure 2008
- Adjoint Professor, UT System BME Department, 2007 to 2010
- Adjunct Professor, Chemical Engineering, Rice University, 2005 to present
- Adjunct Professor, Chemical Engineering, University of Houston, 2003 to present
- Associate Professor, UTHSC-GSBS 2003 to 2009
- Associate Professor, Chemical and Biomolecular Engineering & Program Director, Applied Biomedical Engineering Program, Cleveland State University and Cleveland Clinic Foundation, 2000-2003.

Other Employment:

- Senior Scientist and Program Manager, SEQUUS Pharmaceuticals Inc./ALZA Corp. 1996-2000
- Senior Research Engineer, Abbott Laboratories 1991-1996

Membership in Professional Organizations:
2011-present *Radiological Society of North America,* Full member
2010 – present *American Institute of Medical and Biological Engineers* **(Fellow)**
2019-present Society for Pediatric Radiology
2020 – present National Academy of Inventors **(Fellow)**

Honors and Awards:

2020	Elected to National Academy of Inventors (Fellow)
2010	Elected to the College of Fellows, American Institute of Medical and Biological Engineering (AIMBE)

Commercialization activities:

- **Founded Marval Pharma Ltd., Netanya, Israel**. Formed originally as Marval Biosciences Inc. in 2003, Now dissolved
- **Founded InSilico Therapies Inc**. formed 2007, Now dissolved
- **Founded Sensulin LLC, Oklahoma City OK and San Diego, CA,** formed 2008. (www.sensulin.com for more information)
- **Founded ALZECA Inc., Houston, TX and San Francisco, CA.** Formed 2010.(www.alzeca.com for more information)
- **Over 140 patents worldwide, majority are commercially licensed**

Invited lectureships:

2024	Invited Speaker, International Cytokine and Chemokine Society, Seoul, South Korea.
2022	Invited Speaker, University of Massachusetts Biomedical Engineering, Amherst, MA
2021	Invited Speaker, CT3N University of Pennsylvania Medical School, Philadelphia, PA
2019	Invited Speaker, CERN Workshop on Spectral Detectors, Geneva, CH
2018	Invited Speaker, University of Massachusetts Medical School, Worcester, MA
2017	Keynote speaker, University of Zurich Heart and Brain Symposium, Sils Maria, CH
2014	Invited speaker, Fanconi Anemia Research Society, Washington DC
2014	Keynote speaker, Institute for Molecular Medicine, Houston, TX
2010	Invited faculty, Cleveland Clinic Nanomedicine Summit, Cleveland OH
2010	Invited faculty, Society for Cardiovascular CT, Las Vegas NV
2010	Keynote speaker at The 5th International BioNanoTox conference, Little Rock, AR.
2008	Invited speaker at the Texas Academies, an organization of the Texan members of the National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine, Dallas TX.
2007	Invited Speaker, BEMA, the Biomaterials Subcommittee of the National Academy of Sciences, Washington, DC.

Editorial Service:

Ad hoc reviewer for the following journals: Placenta, Particle Technology, European Journal of Pharmaceutical Sciences. Annals of Biomedical Engineering, Nature Methods, Biomedical microdevices, Journal of Fluid Mechanics, Journal of Controlled Release, Scientific Reports, Journal of Alzheimer's Disease

Service on National Grant Review Panels, Study Sections, etc.

2002 - 2004 Ad hoc reviewer, NIH Study Section SSS-H (Computational Biology)
2004 -2005 Standing Member, NIH Study Section MABS
2006 - 2018 Ad hoc reviewer for the following NIH sections: Roadmap Program Grants, RES-D(52) BRP, Nano, BMBI, various SBIR sections, NIOSH Centers, and R15(AREA) grants.
2019 - 2023 Standing Member, NIH Study Section NANO
2025: Ad hoc reviewer for ZRG1 F10C B(20) (F-series Fellowship Grant Applications)
2025 Ad hoc reviewer for ZRG1 CTH E(45) (P01 Program Project Grant Applications)

Service at the Institutional Level:

- Member, Research Leadership Council, 2020-present. The RLC consists of the vice-Chairs for Research of each of the Clinical departments, and is responsible for guiding institutional policy in Research infrastructure and strategy
- Member, Advisory Council of the Texas Children's Research Institute (TCRI). This 8-member board consists of vice-Chairs for Research across the organization, and advises the President of the TCRI on all Institute matters.

Service at the Department Level:

- Member, Committee on Appointments and Promotions, Department of Radiology. This is a

selected group of full Professors and Section Chiefs who advise the RIC/Chair on applications for faculty appointment and promotion.
- Member, Departmental Executive Committee, Department of Radiology. This is a group of Section Heads who advise the RIC/Chair on all departmental matters.
- Member, Departmental Education Committee, Department of Radiology. This is a group of selected faculty who determine the educational program and priorities for the department.

Sponsorship of candidates for Graduate Degree

- Prashant Kakade 1999-2001 (Currently at Cipla Inc., Princeton NJ)
- Ashish Singh School of Health Information Sciences 2003-2006 (Currently at University of Pennsylvania)
- Jay Natarajan Graduate School of Biomedical Sciences 2003-2005 (currently Director at Evonik Inc., Singapore)
- Rohan Bhavane SHIS 2003-2007 (currently Staff at Texas Childrens Hospital)
- Ketan Ghaghada University of Houston 2003-2006 (currently Associate Professor, Baylor College of Medicine)
- Stathis Karathanassis University of Houston 2003-2006 (currently Professor, Case Western Reserve University)
- Natalya Mishchiy SHIS 2003-2008 (currently full time mother)
- Devadatta Tata SHIS 2007-2008 (currently Research Associate UTHSC and Memorial Hermann Hospital)
- Emmanuel Chen University of Houston 2004-2006 (deceased)
- Carlos Andres Garcia (2009-2010) (Currently physician in Colombia)
- Gabriela Espinosa (2010-2011) (Last known position Director of Bioinformatics at Stanford University.)
- Robert Bell (2011-2012) (Currently employed by Methodist Hospital)
- Divya Sabapathy (2008-2009, 2010-2013) (Currently PICU Fellow, Texas Children's Hospital)
- Cameron Arellano (2025-)

Sponsorship of Postdoctoral Fellows:

Asha Nadipuram 2007 (Went on to Law School, Currently patent attorney in Washington DC)
Ketan Ghaghada 2008-2009 (Currently Associate Professor at Baylor College of Medicine)
Jianguo Zhang 2008-2009 (Current position unknown)
Rohan Bhavane 2008-2011 (Currently Staff at Texas Childrens Hospital)
Indrani Dasgupta 2008-2010 (Went to Law School, Currently patent attorney at Wilson Sonsini)
Mayank Srivastava 2008-2011 (Currently Staff at Texas Childrens Hospital)
Eric Tanifum 2009-2011 (Currently Associate Professor at Baylor College of Medicine)
Christabel Tomla 2010-2011 (Currently at Schlumberger Inc.)
Zbigniew Starosolski 2010-2011 (Currently Associate Professor at Baylor College of Medicine)
Conelius Ngwa 2016-2018 (Currently postdoc at University of Texas)
Laxman Devkota 2016-2019 (Currently Instructor, Baylor College of Medicine)
Praveen Chintakunta 2018-2020 (Currently Research Scientist, Regional Research Laboratory, Hyderabad, India)
Xianwei Sun 2018-2020 (Currently Senior Scientist, Baylor College of Medicine)
Andrew Badachhape 2018-2019 (Currently Instructor at Baylor College of Medicine)
Parag Parekh 2019-2020 (Currently Senior Scientist, Baylor College of Medicine)
Prasad Admane 2019-2021 (Currently Senior Scientist, Baylor College of Medicine)
Esther Ngan 2022-2025(Currently Senior Scientists, Baylor College of Medicine)
Yan Ding 2022-2024 (presently at University of Houston)
Warid Iqbal (2024-present)

Current Teaching Responsibilities:
Introduction to Radiology Research (TCH Radiology). This is an introductory lecture set for all trainees and faculty at TCH Radiology.

Past Teaching Responsibilities:
Introduction to Nanomedicine (Fall 2009-2010, BME) This was the flagship Nanomedicine Course in the BME department, and was offered simultaneously at UTHSC, UT-Austin and was open to all students in the Gulf Coast Consortium of Universities. This course was required for all students in the Nanomedicine T32 Training grant. Typical enrolment was 30 students across all campuses(UTHSC, UT-Austin, Rice, Baylor, and University of Houston). In order to accommodate this geographically distributed group of students, I moved the course into the Virtual World technology adopted by the UT System: Second Life, an approach that was featured extensively in the National media. (See for example https://aimbe.org/uthealth-prof-teaches-nano-course-virtual-world/)

Grant Writing (2003-2008, SHIS) This was a required graduate course at the School of Health Information Sciences at UT. Typical enrolment was 8. Several of the students in this course have gone on to successful careers in academia.

Chemical Engineering Design (2000-2003, CSU) This was the capstone design course at Cleveland State University. Typical enrolment was 20.

Particle Technology (2000-2003, CSU) This was a graduate course on particle handling and operations at Cleveland State University. Typical enrolment was 10.

Current Grant Support:
I have consistenly ranked in the top 100 NIH funded Radiology/Radiation Oncology faculty in the last decade, The highest rank I have achieved is #4 in 2023. (Blue Ridge Insititute for Medical Research). 2023 NIH funding was ~$6.3M,. 2025 will be ~$5M.

OT2OD040565 Role: MPI 9/29/2025-9/25/2028
NIH Office of the Director (OD) $4,853,391 (3 years, awarded in Year 1)
This project will develop a robust and transparent framework for the validation and replication of autism data science models through a multimodal, cross institutional approach. The initiative will employ comprehensive datasets from various sources including clinical, genomic, environmental, and physiological data from Texas Children's Hospital (TCH) and other prominent research repositories. By leveraging advanced AI/ML methods, we will rigorously assess model performance across different pediatric populations, ensuring generalizability and fairness in clinical settings.

RF1NS144213 Role: PI 8/1/2025-7/31/2029
NIH/NINDS/NIA $3,039,032 (4 years, awarded in Year 1)
The overarching hypothesis of this proposal is that SARS-CoV-2 could be one of many contribu>ng factors to a cascade leading to Alzheimers disease and related demen>as. We therefore propose to conduct phenotyping and mechanistic studies in mouse models studying the COVID-19-AD axis, utilizing novel imaging methodologies, characterizing the spectrum of neuropathological changes post COVID-19 in the settIng of other risk factors, and uncovering mechanistic links.

R33HD105593 Role: PI 12/18/2020-12/1/2025
NIH/NICHD/OD $3,122,969 (annual)
AICORE-KIDS: ARTIFICIAL INTELLIGENCE COVID-19 RISK ASSESSMENT FOR KIDS
We propose an artificial intelligence/machine learning approach to integrate a rich and heterogeneous dataset on COVID-19 in children, characterize the spectrum of disease and identify biosignatures that predict severity in progressive disease.

R33HD105593-S2 Role: PI 12/1/2023-11/30/2025
NIH/NICHD/OD $3,148,282 (annual)
THE PREVAIL-kIDS COMMON PROTOCOL
We agglomerate data across the 8 sites of the PreVAIL-kIds network and international collaborators to enable multisite validation of assays developed by the sites of the network

Other Support:
The Directorship of the Translational Imaging Group at Texas Children's Hospital provides up to 10 FTE + Supplies, travel and miscellaneous costs as a discretionary fund.

Completed Grant Support
517-2011-531 Yr 2 Role: PI 2/1/2012-1/31/2015
JUVENILE DIABETES RESEARCH FOUNDATION Direct Costs: $450,000.
AGGLOMERATED VESICLES FOR GLUCOSE SENSING INSULIN DELIVERY
A set of formulations of AVT which is non-toxic, non-inflammatory, and can be used for glucose-sensing insulin delivery will be tested and proved in both a small-animal (rat) and large animal (dog) model.

5R01CA159042 Role: Subcontract PI 3/1/2011 - 2/28/2015
National Institutes of Health (NIH) Direct Costs: $350,000
Personalizing Nanoparticle Therapy
The goals of this project are to use MRI based nanoparticle imaging to characterize the vascular permeability of ovarian tumors as a means of personalizing nanoparticle therapies.

IIP-1346341 Role: PI 1/1/2014 - 12/31/2014
NATIONAL SCIENCE FOUNDATION (NSF) Direct Costs: $65,163.00
SENSULIN AVT: A 24-HOUR GLUCOSE-RESPONSIVE INSULIN
Sensulin's goal is to elevate the standard of care for diabetes treatment and develop a next-generation once-a-day insulin based upon its AVT drug delivery system.

5R01DE024392 Role: Co-PI 7/1/2014 - 6/30/2018
NATIONAL INSTITUTES OF HEALTH (NIH) Direct Costs: $279,904
APTAMER MEDIATED TARGETING OF FANCONI ANEMIA ORAL CANCER INITIATING CELLS
Identify thioaptamers to target Fanconi Anemia Oral Cancer initiating cells.

(No Grant Number) (Annapragada/Shohet) 8/1/2010-7/30/2018
Gillson-Longenbaugh Foundation Direct Costs: $560,000
Nanoparticle targeting of Neuroblastoma Stem Cells
Identify thioaptamers to target Neuroblastoma Stem Cells.

R01DE024392 (MPI) 06/01/2014-05/31/2019 0.36 Calendar
NIH/NIDCR $65,372 (annual) Aptamer
Mediated Targeting of Fanconi Anemia Oral Cancer Initiating Cells
Major goals: aptamer mediated targeting of fanconi anemia oral cancer initiating cells Identify thioaptamers to target fanconi anemia oral cancer initiating cells.

(No Grant Number) (PI) 09/01/2017-08/31/2018 0.0 Calendar
Gillson Longenbaugh Foundation $60,000 (annual)
Novel Near-IR Imaging of tumor margins and intratumoral vasculature
The goal of this project is to develop a next generation NIR-2 Imaging system for pre-clinical imaging, utilizing a compound semiconductor camera, existing clinically approved dyes, and novel dyes developed in the TIGr lab.

(No Grant Number) (PI) 09/01/2017-08/31/2019 0.0 Calendar
Gillson Longenbaugh Foundation $70,000 (annual)
Imaging and Targeting of Neuroblastoma
The goals are to utilize the CD114 receptor as a unique marker of neuroblastoma Cancer Stem Cells to deliver payloads to these cells. Utilize novel mechanical cell manipulation methods to develop universal transfection methodologies.

R44AG051292 (Subcontract PI) 07/01/2017 – 08/30/2019 1.20 Calendar
NIH/NIA $467,138 (total)
Novel MRI contrast agent for the detection of beta-amyloid
The goal of this project is to advance ADx-MR, a liposomal T1-MR agent to qualify for a pre-IND meeting by establishing additional efficacy, safety, and scalability data.

R01HD094347 (PI) 02/16/2018-01/31/2023
NIH/NICHD $379,311 (annual)
Molecular and Vascular MRI of Placenta Accreta
The goal is to develop a novel platform technology based on liposomal MRI imaging agents that provide methodology for safe, facile vascular and molecular imaging of the placenta.

R01HD094347-S1(PI) 9/3/2020-1/31/2023
NIH/NICHD $156,621 (annual)
Molecular and Vascular MRI of Placenta Accreta
The goal is to study the transport of virion surrogate particles mimicking the SARS-CoV-2 virus across the placental barrier

U01DE028233 (MPI) 09/19/2018-08/31/2023
NIH/NIDCR/NCI $804,594 (annual)
TARGETING THE IMMUNOSUPPRESSIVE TUMOR MICROENVIRONMENT TO ENHANCE EFFICACY OF RADIOTHERAPY AND IMMUNO-RADIOTHERAPY FOR ORAL CANCER
The goal of this project is to target myeloid derived suppressor cells in oral cancers, thus enhancing the efficacy of chemotherapy and radiotherapy.

Publications: (h-index 37, i-10 index 84, 5308 citations as of 4/2025)
Refereed Original Articles in Journals

1. Gulari, Esin, Bazzi, G., Gulari, E., & Annapragada, A. (1987). Latex Particle Size Distributions from Multiwavelength Turbidity Spectra. Particle & Particle Systems Characterization, 4(1-4), 96–100. doi:10.1002/ppsc.19870040120
2. Vaporciyan, G, and A Annapragada. “Rate Enhancements and Quasi-Periodic Dynamics during Forced Concentration Cycling of CO and O2 over Supported Pt—SnO2.” *Chemical Engineering Science*, 1988.
3. Annapragada, Ananth V., and Erdogan Gulari. “Fe-P-O Catalysts for Methane Utilization—Catalyst Development and Identification.” *Journal of Catalysis* 123, no. 1 (1990): 130–46.
4. Vijayalakshmi, Chandra S., Ananth V. Annapragada, and Erdogan Gulari. “Equilibrium Extraction and Concentration of Multivalent Metal Ion Solutions by Using Winsor II Microemulsions.” *Separation Science and Technology* 25, no. 6 (1990): 711–27.
5. Annapragada, Ananth V., Klavs F. Jensen, and Thomas F. Kuech. “Infrared Spectroscopic Determination of Substitutional Carbon in MOVPE Grown Films of GaAs.” *Journal of Crystal Growth* 107, no. 1–4 (1991): 248–53.
6. Annapragada, Ananth V., Sateria Salim, and Klavs F. Jensen. “Ftir Studies Of Organometallic Surface Chemistry Relevant To Atomic Layer Epitaxy.” *MRS Online Proceedings Library* 222, no. 1 (1991): 81–86.
7. Odom, RW, L Salvati, and A Annapragada. “XPS and TOF-SIMS Microanalysis of a Peptide/Polymer

Drug Delivery Device." *Analytical Chem*, 1995.
http://pubs.acs.org/doi/abs/10.1021/ac00117a009.

8. Annapragada, Ananth, and Akwete Adjei. "An Analysis of the Fraunhofer Diffraction Method for Particle Size Distribution Analysis and Its Application to Aerosolized Sprays." *International Journal of Pharmaceutics* 127, no. 2 (1996): 219–27.
9. Annapragada, Ananth, and Joseph Neilly. "On the Modelling of Granulation Processes: A Short Note." *Powder Technology* 89, no. 1 (1996): 83–84.
10. Muzzio, FJ, A Annapragada, and A Adjei. "Numerical Analysis of Motion and Deposition of Particles in Cascade Impactors." *International Journal of Pharmaceutics* 1996 Volume 142, Issue 1, , 33-51.
11. Annapragada, A, and A Adjei. "Numerical Simulation of Milling Processes as an Aid to Process Design." *International Journal of Pharmaceutics*, 1996 Volume 136, Issues 1–2, 1-11
12. Saul, J. M., Annapragada, A. V., & Bellamkonda, R. V. (2006). A dual-ligand approach for enhancing targeting selectivity of therapeutic nanocarriers. Journal of Controlled Release : Official Journal of the Controlled Release Society, 114(3), 277–287. doi:10.1016/j.jconrel.2006.05.028
13. Saul, J. M., Annapragada, A., Natarajan, J. V., & Bellamkonda, R. V. (2003). Controlled targeting of liposomal doxorubicin via the folate receptor in vitro. Journal of Controlled Release : Official Journal of the Controlled Release Society, 92(1-2), 49–67.
14. Kao, C.-Y., Hoffman, E. A., Beck, K. C., Bellamkonda, R. V., & Annapragada, A. V. (2003). Long-residence-time nano-scale liposomal iohexol for X-ray-based blood pool imaging. Academic Radiology, 10(5), 475–483.
15. Nowak, N., Kakade, P. P., & Annapragada, A. V. (2003). Computational fluid dynamics simulation of airflow and aerosol deposition in human lungs. Annals of Biomedical Engineering, 31(4), 374–390.
16. Bhavane, R., Karathanasis, E., & Annapragada, A. V. (2003). Agglomerated vesicle technology: a new class of particles for controlled and modulated pulmonary drug delivery. Journal of Controlled Release : Official Journal of the Controlled Release Society, 93(1), 15–28.
17. Karathanasis, E., Ayyagari, A. L., Bhavane, R., Bellamkonda, R. V., & Annapragada, A. V. (2005). Preparation of in vivo cleavable agglomerated liposomes suitable for modulated pulmonary drug delivery. Journal of Controlled Release : Official Journal of the Controlled Release Society, 103(1), 159–175. doi:10.1016/j.jconrel.2004.11.009
18. Ghaghada, K. B., Saul, J., Natarajan, J. V., Bellamkonda, R. V., & Annapragada, A. V. (2005). Folate targeting of drug carriers: a mathematical model. Journal of Controlled Release : Official Journal of the Controlled Release Society, 104(1), 113–128. doi:10.1016/j.jconrel.2005.01.012
19. Karathanasis, E., Bhavane, R., & Annapragada, A. V. (2006). Triggered release of inhaled insulin from the agglomerated vesicles: pharmacodynamic studies in rats. Journal of Controlled Release Official Journal of the Controlled Release Society, 113(2), 117–127. doi:10.1016/j.jconrel.2006.04.004
20. Mukundan, S., Ghaghada, K. B., Badea, C. T., Kao, C.-Y., Hedlund, L. W., Provenzale, J. M., et al. (2006). A liposomal nanoscale contrast agent for preclinical CT in mice. AJR American Journal of Roentgenology, 186(2), 300–307. doi:10.2214/AJR.05.0523
21. Ayyagari, A. L., Zhang, X., Ghaghada, K. B., Annapragada, A., Hu, X., & Bellamkonda, R. V. (2006a). Long-circulating liposomal contrast agents for magnetic resonance imaging. Magnetic Resonance in Medicine, 55(5), 1023–1029. doi:10.1002/mrm.20846
22. Bhavane, R., Karathanasis, E., & Annapragada, A. V. (2007). Triggered release of ciprofloxacin from nanostructured agglomerated vesicles. International Journal of Nanomedicine, 2(3), 407–418.
23. Karathanasis, E., Bhavane, R., & Annapragada, A. V. (2007a). Glucose-sensing pulmonary delivery of human insulin to the systemic circulation of rats. International Journal of Nanomedicine, 2(3), 501–513.
24. Burke, S. J., Annapragada, A., Hoffman, E. A., Chen, E., Ghaghada, K. B., Sieren, J., & van Beek, E. J. R. (2007). Imaging of pulmonary embolism and t-PA therapy effects using MDCT and liposomal iohexol blood pool agent: preliminary results in a rabbit model. Academic Radiology, 14(3), 355–362. doi:10.1016/j.acra.2006.12.014
25. Karathanasis, E., McNeeley, K., Agarwal, A., Annapragada, A., & Bellamkonda, R. (2007b). MR

trackable, chemotherapeutic nanoparticles for patient specific glioma therapy. Microsc Microanal, 13, 2.
26. McNeeley, K. M., Annapragada, A., & Bellamkonda, R. V. (2007). Decreased circulation time offsets increased efficacy of PEGylated nanocarriers targeting folate receptors of glioma. Nanotechnology, 18, 385101.
27. Sakamoto, J., Annapragada, A., Decuzzi, P., & Ferrari, M. (2007). Antibiological barrier nanovector technology for cancer applications. Expert Opinion on Drug Delivery, 4(4), 359–369. doi:10.1517/17425247.4.4.359
28. Ghaghada, K. B., Bockhorst, K. H. J., Mukundan, S., Annapragada, A. V., & Narayana, P. A. (2007). High-resolution vascular imaging of the rat spine using liposomal blood pool MR agent. AJNR. American Journal of Neuroradiology, 28(1), 48–53.
29. Ghaghada, K., Hawley, C., Kawaji, K., Annapragada, A., & Mukundan, S. (2008a). T1 relaxivity of core-encapsulated gadolinium liposomal contrast agents--effect of liposome size and internal gadolinium concentration. Academic Radiology, 15(10), 1259–1263. doi:10.1016/j.acra.2008.04.018
30. Karathanasis, E., Park, J., Agarwal, A., Patel, V., Zhao, F., Annapragada, A. V., et al. (2008c). MRI mediated, non-invasive tracking of intratumoral distribution of nanocarriers in rat glioma. Nanotechnology, 19(31), 315101. doi:10.1088/0957-4484/19/31/315101
31. Karathanasis, E., Chan, L., Balusu, S. R., D'Orsi, C. J., Annapragada, A. V., Sechopoulos, I., & Bellamkonda, R. V. (2008a). Multifunctional nanocarriers for mammographic quantification of tumor dosing and prognosis of breast cancer therapy. Biomaterials, 29(36), 4815–4822. doi:10.1016/j.biomaterials.2008.08.036
32. Ghaghada, K., Hawley, C., Kawaji, K., Annapragada, A., & Mukundan, S. (2008b). T1 relaxivity of core-encapsulated gadolinium liposomal contrast agents--effect of liposome size and internal gadolinium concentration. Academic Radiology, 15(10), 1259–1263. doi:10.1016/j.acra.2008.04.018
33. Karathanasis, E., Chan, L., Balusu, S. R., D'Orsi, C. J., Annapragada, A. V., Sechopoulos, I., & Bellamkonda, R. V. (2008b). Multifunctional nanocarriers for mammographic quantification of tumor dosing and prognosis of breast cancer therapy. Biomaterials, 29(36), 4815–4822. doi:10.1016/j.biomaterials.2008.08.036
34. McNeeley, K. M., Karathanasis, E., Annapragada, A. V., & Bellamkonda, R. V. (2009). Masking and triggered unmasking of targeting ligands on nanocarriers to improve drug delivery to brain tumors. Biomaterials, 30(23-24), 3986–3995. doi:10.1016/j.biomaterials.2009.04.012
35. Karathanasis, E., Suryanarayanan, S., Balusu, S. R., McNeeley, K., Sechopoulos, I., Karellas, A., et al. (2009b). Imaging nanoprobe for prediction of outcome of nanoparticle chemotherapy by using mammography. Radiology, 250(2), 398–406. doi:10.1148/radiol.2502080801
36. Karathanasis, E., Chan, L., Karumbaiah, L., McNeeley, K., D'Orsi, C. J., Annapragada, A. V., et al. (2009a). Tumor vascular permeability to a nanoprobe correlates to tumor-specific expression levels of angiogenic markers. PloS One, 4(6), e5843. doi:10.1371/journal.pone.0005843
37. Annapragada, Ananth, & Bellamkonda, R. V. (2009). Image-based determination of “physiomarkers” for personalized cancer therapy. Future Oncology (London, England), 5(4), 409–411. doi:10.2217/fon.09.21
38. Ghaghada, K. B., Ravoori, M., Sabapathy, D., Bankson, J., Kundra, V., & Annapragada, A. (2009). New dual mode gadolinium nanoparticle contrast agent for magnetic resonance imaging. PloS One, 4(10), e7628. doi:10.1371/journal.pone.0007628
39. Vigneswaran, N., Wu, J., Song, A., Annapragada, A., & Zacharias, W. (2011). Hypoxia-induced autophagic response is associated with aggressive phenotype and elevated incidence of metastasis in orthotopic immunocompetent murine models of head and neck squamous cell carcinomas (HNSCC). Experimental and Molecular Pathology, 90(2), 215–225. doi:10.1016/j.yexmp.2010.11.011
40. Mann, A. P., Bhavane, R. C., Somasunderam, A., Liz Montalvo-Ortiz, B., Ghaghada, K. B., Volk, D., et al. (2011). Thioaptamer conjugated liposomes for tumor vasculature targeting. Oncotarget, 2(4), 298–304.

41. Opina, A. C. L., Ghaghada, K. B., Zhao, P., Kiefer, G., Annapragada, A., & Sherry, A. D. (2011). TmDOTA-Tetraglycinate Encapsulated Liposomes as pH-Sensitive LipoCEST Agents. PloS One, 6(11), e27370. doi:10.1371/journal.pone.0027370
42. Ghaghada, K. B., Badea, C. T., Karumbaiah, L., Fettig, N., Bellamkonda, R. V., Johnson, G. A., & Annapragada, A. (2011). Evaluation of tumor microenvironment in an animal model using a nanoparticle contrast agent in computed tomography imaging. Academic Radiology, 18(1), 20–30. doi:10.1016/j.acra.2010.09.003
43. Annapragada, Ananth V, Hoffman, E., Divekar, A., Karathanasis, E., & Ghaghada, K. B. (2012). High-resolution CT vascular imaging using blood pool contrast agents. Methodist DeBakey Cardiovascular Journal, 8(1), 18–22.
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Invited Articles (Reviews, Editorials, etc.) in Journals

1. "In-silico modeling of aerosol deposition in lungs" Ananth Annapragada and Natalya Mishchiy. Current Opinions in Drug Delivery. 2007.
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Books and Book Chapters:

6. Er. Gulari, A. Annapragada, Es. Gulari and B. Jawad. "Comparison of light scattering techniques for the determination of particle size distributions" *ACS Symposium Series 332, Chapter 9,* 1985.
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Patents (Issued, and Published Applications, Worldwide):

Named inventor on the following patents/published applications (Total 134, as of 9/9/2025)

1.3032054MRI IMAGING OF AMYLOID PLAQUE USING LIPOSOMES
ES - 15.07.2025
Int.Class
A61K 49/00
Appl.No 22152987
Applicant Texas Children's Hospital
Inventor Annapragada, Ananth
Se proporcionan compuestos aromáticos, conjugados de fosfolípido-polímero-aromático que comprenden los compuestos aromáticos, y composiciones liposomales que incluyen los conjugados de fosfolípido-polímero-aromático. Las composiciones liposomales pueden ser útiles para la obtención de imágenes de la enfermedad de Alzheimer, por ejemplo, la obtención de imágenes de los depósitos de placa de amiloide-β característicos de la enfermedad de Alzheimer. (Traducción automática con Google Translate, sin valor legal)

2.20240165273SELF-ASSEMBLING MOLECULES ENABLING HIGH PERFORMANCE IN VIVO IMAGING IN THE SECOND NEAR INFRARED (NIR-II) WINDOW
US - 23.05.2024
Int.Class
A61K 49/00
Appl.No 18385855
Applicant Baylor College of Medicine
Inventor Eric Tanifum

Embodiments of the present disclosure pertain to a composition with molecules that self-assemble to form a particle. Additional embodiments of the present disclosure pertain to methods of imaging a region of a subject by: (1) administering the compositions of the present disclosure to the subject to result in the accumulation of the molecules in the region of the subject; and (2) imaging the region of the subject. In some embodiments, the imaged region includes a tumor. In some embodiments, the imaged region includes a blood vessel.

3.2024037760TARGET CONTRAST MEDIUM FOR MRI OF AMYLOID DEPOSITION
JP - 19.03.2024
Int.Class
A61K 47/24
Appl.No 2023202011
Applicant TEXAS CHILDRENS HOSPITAL
Inventor ERIC A TANIFUM
PROBLEM TO BE SOLVED: To provide a liposome composition used in a method of imaging amyloid deposit.

SOLUTION: A method of imaging an amyloid deposit includes: (A) introducing a detectable amount of a liposome composition to a patient, where the liposome composition includes (1) macrocyclic gadolinium-based imaging agent conjugated with specific phospholipid or salt thereof, and (2) a targeted ligand represented by the following formula; (B) giving enough time, and associating a liposome composition with one or more amyloid deposit; and (C) detecting a liposome composition associated with one or more amyloid deposit.

SELECTED DRAWING: None

4.20230398238TARGETED CONTRAST AGENTS FOR MRI OF ALPHA-SYNUCLEIN DEPOSITION
US - 14.12.2023
Int.Class
A61K 49/08
Appl.No 18455407
Applicant Texas Children's Hospital
Inventor Eric A. Tanifum
A liposomal composition (“ADx-003”) is provided, ADx-003 comprising a first phospholipid; a sterically bulky excipient that is capable of stabilizing the liposomal composition; a second phospholipid that is derivatized with a first polymer; a macrocyclic gadolinium-based imaging agent; and a third phospholipid that is derivatized with a second polymer, the second polymer being conjugated to a targeting ligand, the targeting ligand being represented by Formula I:

embedded image

wherein X is —CH2—, —CH2—CH2—, —CHO—, or —O—CO—; Y is —CH—CH═CH— or

embedded image

A and B are independently selected from C and N; R1, R2, R3, and R4 are independently selected from —H, halogen, —OH, and —CH3; and R5, R6, and R7 are independently selected from —H, halogen, —OH, —OCH3, —NO2, —N(CH3)2, C1-C6 alkyl, or a substituted or unsubstituted C4-C6 aryl group, except that when A and/or B is N the adjacent R5 and/or R7 is —H, or a pharmaceutically acceptable salt thereof.

5.WO/2023/215788TARGETING LIGANDS FOR TAU PATHOLOGY

WO - 09.11.2023
Int.Class
A61B 5/055
Appl.No PCT/US2023/066550
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor PAREKH, Parag
Methods and compositions for detecting tau pathology are described. The compositions for detecting tau pathology comprise a targeting ligand that specifically binds to a cell surface marker of tau pathology, wherein the targeting ligand is linked to a liposome that includes an imaging agent. The compositions can be used in a method for imaging tau pathology in a subject that comprises administering to the subject an effective amount of the composition to a subject and imaging at least a portion of the subject to determine if that portion of the subject exhibits tau pathology. The compositions can also be used to detect tau pathology in biological samples obtained from a subject.
6.20230324411Targeting ligands for tau pathology
US - 12.10.2023
Int.Class
G01N 33/68
Appl.No 18163000
Applicant Texas Children's Hospital
Inventor Parag Parekh
Methods and compositions for detecting tau pathology are described. The compositions for detecting tau pathology comprise a targeting ligand that specifically binds to a cell surface marker of tau pathology, wherein the targeting ligand is linked to a liposome that includes an imaging agent. The compositions can be used in a method for imaging tau pathology in a subject that comprises administering to the subject an effective amount of the composition to a subject and imaging at least a portion of the subject to determine if that portion of the subject exhibits tau pathology. The compositions can also be used to detect tau pathology in biological samples obtained from a subject.

7.20230255606DESIGN OF 3D-PRINTED NASOPHARYNGEAL SWABS
US - 17.08.2023
Int.Class
A61B 10/02
Appl.No 18017302
Applicant BAYLOR COLLEGE OF MEDICINE
Inventor Zbigniew Starosolski
Improved nasopharyngeal swabs for COVID-19 or other molecular diagnostic testing are discussed herein. Swab designs for adult use are not suitable for pediatric use. Swabs for pediatric use need to be smaller and more flexible to navigate delicate pediatric nasopharyngeal cavities. A novel use of maxillofacial CT scans to aid in the design of pediatric nasopharyngeal swabs satisfying such criteria is discussed. Further, the novel swabs are also suitable for 3D printing.

8.4185213DESIGN OF 3D-PRINTED NASOPHARYNGEAL SWABS
EP - 31.05.2023
Int.Class
A61B 10/00
Appl.No 21847000
Applicant BAYLOR COLLEGE MEDICINE
Inventor STAROSOLSKI ZBIGNIEW
Improved nasopharyngeal swabs for COVID-19 or other molecular diagnostic testing are discussed herein. Swab designs for adult use are not suitable for pediatric use. Swabs for pediatric use need to be smaller and more flexible to navigate delicate pediatric nasopharyngeal cavities. A novel use of maxillofacial CT scans to aid in the design of pediatric nasopharyngeal swabs satisfying such criteria is discussed. Further, the novel swabs are also suitable for 3D printing.

9.20230136718FUNCTIONALIZED LIPOSOMES FOR IMAGING MISFOLDED PROTEINS
US - 04.05.2023
Int.Class
A61K 49/12
Appl.No 18055100
Applicant Alzeca Biosciences, LLC
Inventor Ananth V. Annapragada
Phospholipid-polymer-aromatic conjugates comprising binding ligands, liposome compositions including the phospholipid-polymer-aromatic conjugates, and binding ligands having an affinity for misfolded proteins are described. The phospholipid-polymer-aromatic conjugate may be represented by Structural Formula I: PL-AL-HP-X-BL (I). In Formula I, PL is a phospholipid, AL is an aliphatic linkage, HP is hydrophilic polymer, X is a link between the phospholipid-polymer and the binding ligand, and BL is polycyclic aromatic compound that functions as a binding ligand. The liposomal compositions may be useful for the imaging of misfolded and/or aggregated proteins.

10.WO/2023/049044STRATIFICATION OF DISEASE SEVERITY FOLLOWING AN INFLAMMATORY CONDITION
WO - 30.03.2023
Int.Class
C12Q 1/6883
Appl.No PCT/US2022/043849
Applicant BAYLOR COLLEGE OF MEDICINE
Inventor ANNAPRAGADA, Ananth
Embodiments of the present disclosure pertain to methods of assessing the severity of an inflammatory condition in a subject by receiving certain biomarker levels in the subject and assessing the severity of the inflammatory condition based on the measured biomarker levels. Differentially expressed levels of certain biomarkers may be correlated to a likelihood of developing a severe inflammatory condition while differentially expressed levels of other biomarkers may be correlated to a likelihood of developing a non-severe inflammatory condition. The methods of the present disclosure may also include a step of making a treatment decision based on the assessment of the severity of the inflammatory condition, such as monitoring the course of the inflammatory condition and/or administering a therapeutic agent to the subject. The method may be repeated after implementing a treatment decision in order to further assess the severity of the inflammatory condition after the treatment decision.
11.4103239TARGETED CONTRAST AGENTS FOR MRI OF ALPHA-SYNUCLEIN DEPOSITION
EP - 21.12.2022
Int.Class
A61K 47/69
Appl.No 21753918
Applicant TEXAS CHILDRENS HOSPITAL
Inventor TANIFUM ERIC A
A liposomal composition ("ADx-003") is provided, ADx-003 comprising a first phospholipid; a sterically bulky excipient that is capable of stabilizing the liposomal composition; a second phospholipid that is derivatized with a first polymer; a macrocyclic gadolinium-based imaging agent; and a third phospholipid that is derivatized with a second polymer, the second polymer being conjugated to a targeting ligand, the targeting ligand being represented by Formula (I): wherein X is -CH2-, -CH2-CH2-, -CHO-, or -O-CO-; Y is -CH-CH=CH- or (II); A and B are independently selected from C and N; R1, R2, R3, and R4 are independently selected from - H, halogen, -OH, and -CH3; and R5, R6, and R7 are independently selected from -H, halogen, -OH, -OCH3, -NO2, -N(CH3)2, C1-C6 alkyl, or a substituted or unsubstituted G4-C6 aryl group, except that when A and/or B is N the adjacent R5 and/or R7 is -H, or a pharmaceutically acceptable salt thereof.
12.4096722TARGETED CONTRAST AGENTS FOR MRI OF AMYLOID DEPOSITION
EP - 07.12.2022
Int.Class

A61K 49/18
Appl.No 21747893
Applicant TEXAS CHILDRENS HOSPITAL
Inventor TANIFUM ERIC A
A liposomal composition ("ADx-001") is provided, ADx-001 comprising a first phospholipid; a sterically bulky excipient that is capable of stabilizing the liposomal composition; a second phospholipid that is derivatized with a first polymer; a macrocyclic gadolinium-based imaging agent; and a third phospholipid that is derivatized with a second polymer, the second polymer being conjugated to a targeting ligand. The macrocyclic gadolinium-based imaging agent may be conjugated to a fourth phospholipid.
13.20220283187Targeting ligands for tau pathology
US - 08.09.2022
Int.Class
G01N 33/68
Appl.No 17739031
Applicant Alzeca Biosciences, LLC
Inventor Ananth Annapragada
Methods and compositions for detecting tau pathology are described. The compositions for detecting tau pathology comprise a targeting ligand that specifically binds to a cell surface marker of tau pathology, wherein the targeting ligand is linked to a liposome that includes an imaging agent. The compositions can be used in a method for imaging tau pathology in a subject that comprises administering to the subject an effective amount of the composition to a subject and imaging at least a portion of the subject to determine if that portion of the subject exhibits tau pathology. The compositions can also be used to detect tau pathology in biological samples obtained from a subject.

14.20220265868Targeted contrast agents for MRI of alpha-synuclein deposition
US - 25.08.2022
Int.Class
A61K 9/00
Appl.No 17737928
Applicant Texas Children's Hospital
Inventor Eric A. Tanifum
A liposomal composition (“ADx-003”) is provided, ADx-003 comprising a first phospholipid; a sterically bulky excipient that is capable of stabilizing the liposomal composition; a second phospholipid that is derivatized with a first polymer; a macrocyclic gadolinium-based imaging agent; and a third phospholipid that is derivatized with a second polymer, the second polymer being conjugated to a targeting ligand, the targeting ligand being represented by Formula I:

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wherein X is —CH2—, —CH2—CH2—, —CHO—, or —O—CO—; Y is —CH—CH═CH— or

embedded image
A and B are independently selected from C and N; R1, R2, R3, and R4 are independently selected from —H, halogen, —OH, and —CH3; and R5, R6, and R7 are independently selected from —H, halogen, —OH, —OCH3, —NO2, —N(CH3)2, C1-C6 alkyl, or a substituted or unsubstituted C4-C6 aryl group, except that when A and/or B is N the adjacent R5 and/or R7 is —H, or a pharmaceutically acceptable salt thereof.

15.4035688MRI IMAGING OF AMYLOID PLAQUE USING LIPOSOMES
EP - 03.08.2022
Int.Class
A61K 49/00
Appl.No 22152987
Applicant TEXAS CHILDRENS HOSPITAL
Inventor ANNAPRAGADA ANANTH

Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid-polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-β plaque deposits characteristic of Alzheimer's Disease.
16.2913069Composiciones de vesículas
ES - 31.05.2022
Int.Class
A61K 47/69
Appl.No 12751825
Applicant Sensulin, LLC
Inventor ANNAPRAGADA, Ananth
Composición de vesículas que puede inyectarse a un paciente, que comprende: (A) una primera composición de liposomas, que comprende una pluralidad de lípidos, que comprende: (1) DPPC; (2) colesterol; y (3) un conjugado de DSPE-PEG-derivado de ácido borónico, en la que la primera composición de liposomas encapsula la insulina; y en la que la primera composición de liposomas comprende aproximadamente el 56,4% en moles de DPPC; aproximadamente el 40% en moles de colesterol; y aproximadamente el 3,6% en moles de conjugado de DSPE-PEG-derivado de ácido borónico; y (B) una segunda composición de liposomas, que comprende una pluralidad de lípidos, que comprende: (1) DPPC; (2) colesterol; (3) un conjugado de DSPE-PEG-glucosilo; (4) un conjugado de DSPE-PEG-galactosilo; y (5) un conjugado de DSPE-PEG-manopiranosidilo, en la que la segunda composición de liposomas encapsula la insulina; y en la que la segunda composición de liposomas comprende aproximadamente el 56,4% en moles de DPPC; aproximadamente el 40% en moles de colesterol; aproximadamente el 1,2% en moles de conjugado de DSPE-PEG-glucosilo; aproximadamente el 1,2% en moles de conjugado de DSPE-PEG-galactosilo; y aproximadamente el 1,2% en moles de conjugado de DSPE-PEG- manopiranosidilo.
17.3997244TARGETING LIGANDS FOR TAU PATHOLOGY
EP - 18.05.2022
Int.Class
C12N 15/115
Appl.No 20836078
Applicant ALZECA BIOSCIENCES LLC
Inventor ANNAPRAGADA ANANTH
Methods and compositions for detecting tau pathology are described. The compositions for detecting tan pathology comprise a targeting ligand that specifically binds to a cell surface marker of tau pathology, wherein the targeting ligand is linked to a liposome that includes an imaging agent. The compositions can be used in a method for imaging tau pathology in a subject that comprises administering to the subject an effective amount of the composition to a subject and imaging at least a portion of the subject to determine if that portion of the subject exhibits tau pathology. The compositions can also be used to detect tau pathology in biological samples obtained from a subject.
18.WO/2022/020425DESIGN OF 3D-PRINTED NASOPHARYNGEAL SWABS
WO - 27.01.2022
Int.Class
A61B 10/00
Appl.No PCT/US2021/042498
Applicant BAYLOR COLLEGE OF MEDICINE
Inventor STAROSOLSKI, Zbigniew
Improved nasopharyngeal swabs for COVID-19 or other molecular diagnostic testing are discussed herein. Swab designs for adult use are not suitable for pediatric use. Swabs for pediatric use need to be smaller and more flexible to navigate delicate pediatric nasopharyngeal cavities. A novel use of maxillofacial CT scans to aid in the design of pediatric nasopharyngeal swabs satisfying such criteria is discussed. Further, the novel swabs are also suitable for 3D printing.
19.20220023445TARGETED CONTRAST AGENTS FOR MRI OF AMYLOID DEPOSITION
US - 27.01.2022

Int.Class
A61K 49/18
Appl.No 17403058
Applicant Texas Children's Hospital
Inventor Eric A. Tanifum
A liposomal composition (“ADx-001”) is provided, ADx-001 comprising a first phospholipid; a sterically bulky excipient that is capable of stabilizing the liposomal composition; a second phospholipid that is derivatized with a first polymer; a macrocyclic gadolinium-based imaging agent; and a third phospholipid that is derivatized with a second polymer, the second polymer being conjugated to a targeting ligand. The macrocyclic gadolinium-based imaging agent may be conjugated to a fourth phospholipid.

20.3914230? ? ?FUNCTIONALIZED LIPOSOMES FOR IMAGING MISFOLDED PROTEINS
EP - 01.12.2021
Int.Class
A61K 9/00
Appl.No 20744955
Applicant ALZECA BIOSCIENCES LLC
Inventor ANNAPRAGADA ANANTH V
Phospholipid-polymer-aromatic conjugates comprising binding ligands, liposome compositions including the phospholipid-polymer-aromatic conjugates, and binding ligands having an affinity for misfolded proteins are described. The phospholipid-polymer-aromatic conjugate may be represented by Structural Formula I: PL — AL — HP — X — BL (I). In Formula I, PL is a phospholipid, AL is an aliphatic linkage, HP is hydrophilic polymer, X is a link between the phospholipid-polymer and the binding ligand, and BL is polycyclic aromatic compound that functions as a binding ligand. The liposomal compositions may be useful for the imaging of misfolded and/or aggregated proteins.
21.113543771FUNCTIONALIZED LIPOSOMES FOR IMAGING MISFOLDED PROTEINS
CN - 22.10.2021
Int.Class
A61K 9/00
Appl.No 202080018762.8
Applicant ALZECA BIOSCIENCES, LLC
Inventor ANNAPRAGADA ANANTH V
Phospholipid-polymer-aromatic conjugates comprising binding ligands, liposome compositions including the phospholipid-polymer-aromatic conjugates, and binding ligands having an affinity for misfolded proteins are described. The liposomal compositions may be useful for the imaging of misfolded and/or aggregated proteins.
22.2855165Métodos y composiciones para caracterizar objetivamente imágenes médicas
ES - 23.09.2021
Int.Class
G06K 9/62
Appl.No 13738451
Applicant Annapragada, Ananth
Inventor Annapragada, Ananth
Un método para aplicar una función de autocorrelación 3-D a una imagen IRM vascular cerebral, el método que comprende: introducir en un paciente un agente potenciador de contraste de nanopartículas eficaz para RM; someter al paciente a IRM para obtener una imagen IRM vascular cerebral; aplicar una función de autocorrelación 3-D a un subdominio de interés de la imagen IRM vascular cerebral para obtener al menos un espectro de autocorrelación 3-D; y analizar al menos un espectro de autocorrelación 3-D para determinar la presencia o ausencia de una fisura característica en el dominio espectral.
23.20210252170TARGETED CONTRAST AGENTS FOR MRI OF ALPHA-SYNUCLEIN DEPOSITION
US - 19.08.2021
Int.Class

A61K 49/10
Appl.No 17175359
Applicant Texas Children's Hospital
Inventor Eric A. Tanifum
A liposomal composition (“ADx-003”) is provided, ADx-003 comprising a first phospholipid; a sterically bulky excipient that is capable of stabilizing the liposomal composition; a second phospholipid that is derivatized with a first polymer; a macrocyclic gadolinium-based imaging agent; and a third phospholipid that is derivatized with a second polymer, the second polymer being conjugated to a targeting ligand, the targeting ligand being represented by Formula I:

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wherein X is —CH2—, —CH2—CH2—, —CHO—, or —O—CO—; Y is —CH—CH═CH— or

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A and B are independently selected from C and N; R1, R2, R3, and R4 are independently selected from —H, halogen, —OH, and —CH3; and R5, R6, and R7 are independently selected from —H, halogen, —OH, —OCH3, —NO2, —N(CH3)2, C1-C6 alkyl, or a substituted or unsubstituted C4-C6 aryl group, except that when A and/or B is N the adjacent R5 and/or R7 is —H, or a pharmaceutically acceptable salt thereof.

24.WO/2021/163585TARGETED CONTRAST AGENTS FOR MRI OF ALPHA-SYNUCLEIN DEPOSITION
WO - 19.08.2021
Int.Class
A61K 49/06
Appl.No PCT/US2021/017986
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor TANIFUM, Eric, A.
A liposomal composition ("ADx-003") is provided, ADx-003 comprising a first phospholipid; a sterically bulky excipient that is capable of stabilizing the liposomal composition; a second phospholipid that is derivatized with a first polymer; a macrocyclic gadolinium-based imaging agent; and a third phospholipid that is derivatized with a second polymer, the second polymer being conjugated to a targeting ligand, the targeting ligand being represented by Formula (I): wherein X is -CH2-, -CH2-CH2-, -CHO-, or -O-CO-; Y is -CH-CH=CH- or (II); A and B are independently selected from C and N; R1, R2, R3, and R4 are independently selected from - H, halogen, -OH, and -CH3; and R5, R6, and R7 are independently selected from -H, halogen, -OH, -OCH3, -NO2, -N(CH3)2, C1-C6 alkyl, or a substituted or unsubstituted G4-C6 aryl group, except that when A and/or B is N the adjacent R5 and/or R7 is -H, or a pharmaceutically acceptable salt thereof.
25.20210236662Targeted contrast agents for MRI of amyloid deposition
US - 05.08.2021
Int.Class
A61K 49/18
Appl.No 17162126
Applicant Texas Children's Hospital
Inventor Eric A. Tanifum
A liposomal composition (“ADx-001”) is provided, ADx-001 comprising a first phospholipid; a sterically bulky excipient that is capable of stabilizing the liposomal composition; a second phospholipid that is derivatized with a first polymer; a macrocyclic gadolinium-based imaging agent; and a third phospholipid that is derivatized with a second polymer, the second polymer being conjugated to a targeting ligand. The macrocyclic gadolinium-based imaging agent may be conjugated to a fourth phospholipid.

26.WO/2021/155128TARGETED CONTRAST AGENTS FOR MRI OF AMYLOID DEPOSITION
WO - 05.08.2021

Int.Class
A61K 49/18
Appl.No PCT/US2021/015683
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor TANIFUM, Eric A.
A liposomal composition ("ADx-001") is provided, ADx-001 comprising a first phospholipid; a sterically bulky excipient that is capable of stabilizing the liposomal composition; a second phospholipid that is derivatized with a first polymer; a macrocyclic gadolinium-based imaging agent; and a third phospholipid that is derivatized with a second polymer, the second polymer being conjugated to a targeting ligand. The macrocyclic gadolinium-based imaging agent may be conjugated to a fourth phospholipid.
27.20210188774Targeting nanoparticles
US - 24.06.2021
Int.Class
C07D 213/69
Appl.No 16607554
Applicant Texas Children's Hosptial
Inventor Darren Woodside
Disclosed herein is a composition comprising a plurality of liposomes having an average diameter of less than 400 nanometers, wherein the plurality of liposomes comprise: a first lipid or phospholipid; a second lipid or phospholipid which is derivatized with a polymer; and a sterically bulky excipient capable of stabilizing the liposomes; a third lipid or phospholipid derivatized with a polymer terminated with an integrin targeting component; DSPE or a fourth lipid or phospholipid derivatized with a group binding a contrast enhancing agent wherein the plurality of liposomes optionally encapsulates a payload component consisting of one or more bioactive agents.

28.2021203388MRI Imaging Of Amyloid Plaque Using Liposomes
AU - 17.06.2021
Int.Class
A61K 49/04
Appl.No 2021203388
Applicant ANNAPRAGADA, Ananth
Inventor ANNAPRAGADA, Ananth
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-p plaque deposits characteristic of Alzheimer's Disease.
29.20210170055TARGETED CONTRAST AGENTS FOR MRI OF AMYLOID DEPOSITION
US - 10.06.2021
Int.Class
A61K 49/18
Appl.No 17162338
Applicant Texas Children's Hospital
Inventor Eric A. Tanifum
A liposomal composition (“ADx-001”) is provided, ADx-001 comprising a first phospholipid; a sterically bulky excipient that is capable of stabilizing the liposomal composition; a second phospholipid that is derivatized with a first polymer; a macrocyclic gadolinium-based imaging agent; and a third phospholipid that is derivatized with a second polymer, the second polymer being conjugated to a targeting ligand. The macrocyclic gadolinium-based imaging agent may be conjugated to a fourth phospholipid.

30.20210128755TARGETING LIGANDS FOR TAU PATHOLOGY
US - 06.05.2021
Int.Class
A61K 49/18

Appl.No 16922762
Applicant Alzeca Biosciences, LLC
Inventor Ananth Annapragada
Methods and compositions for detecting tau pathology are described. The compositions for detecting tau pathology comprise a targeting ligand that specifically binds to a cell surface marker of tau pathology, wherein the targeting ligand is linked to a liposome that includes an imaging agent. The compositions can be used in a method for imaging tau pathology in a subject that comprises administering to the subject an effective amount of the composition to a subject and imaging at least a portion of the subject to determine if that portion of the subject exhibits tau pathology. The compositions can also be used to detect tau pathology in biological samples obtained from a subject.

31.WO/2021/007232TARGETING LIGANDS FOR TAU PATHOLOGY
WO - 14.01.2021
Int.Class
C12Q 1/6811
Appl.No PCT/US2020/041045
Applicant ALZECA BIOSCIENCES, LLC
Inventor ANNAPRAGADA, Ananth
Methods and compositions for detecting tau pathology are described. The compositions for detecting tan pathology comprise a targeting ligand that specifically binds to a cell surface marker of tau pathology, wherein the targeting ligand is linked to a liposome that includes an imaging agent. The compositions can be used in a method for imaging tau pathology in a subject that comprises administering to the subject an effective amount of the composition to a subject and imaging at least a portion of the subject to determine if that portion of the subject exhibits tau pathology. The compositions can also be used to detect tau pathology in biological samples obtained from a subject.
32.2019012699TARGETING NANOPARTICLES.
MX - 11.12.2020
Int.Class
A61K 49/00
Appl.No 2019012699
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor Ananth ANNAPRAGADA
Disclosed herein is a composition comprising a plurality of liposomes having an average diameter of less than 400 nanometers, wherein the plurality of liposomes comprise: a first lipid or phospholipid; a second lipid or phospholipid which is derivatized with a polymer; and a sterically bulky excipient capable of stabilizing the liposomes; a third lipid or phospholipid derivatized with a polymer terminated with an integrin targeting component; DSPE or a fourth lipid or phospholipid derivatized with a group binding a contrast enhancing agent wherein the plurality of liposomes optionally encapsulates a payload component consisting of one or more bioactive agents.
33.112013022170composições de vesícula
BR - 24.09.2020
Int.Class
A61K 9
Appl.No 112013022170
Applicant BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM
Inventor ANANTH ANNAPRAGADA
composições de vesícula. a presente invenção refere-se a composições de vesícula, compreendendo um composto terapêutico. as composições de vesícula podem ser capazes de liberar o composto terapêutico em resposta à presença de um desencadeador externo. as composições de vesícula podem compreender uma série de vesículas biocompatíveis. as vesículas biocompatíveis podem compreender um composto terapêutico para o tratamento de um paciente que dele necessite, e uma ou mais reticulações entre duas ou mais vesículas biocompatíveis, cada reticulação compreendendo uma porção de sensibilização química e uma porção sensibilizada. em uma modalidade, o composto terapêutico

pode ser qualquer composto que proporcione efeitos benéficos paliativos, curativos ou outros efeitos a um paciente.
34.112019022423composto ou um agente que alveja integrina, composição, e, métodos para produzir um lipossomo, para produzir um agente que alveja integrina, para liberação de fármaco, para obter imagens, para liberar um agente bioativo, para obter imagem de uma estrutura biológica e para identificar um paciente em risco
BR - 01.09.2020
Int.Class
A61K 49
Appl.No 112019022423
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor ANANTH ANNAPRAGADA
é aqui descrita uma composição compreendendo uma pluralidade de lipossomos com um diâmetro médio menor que 400 nanômetros, em que a pluralidade de lipossomos compreende: um primeiro lipídeo ou fosfolipídeo; um segundo lipídeo ou fosfolipídeo que é derivado de um polímero; e um excipiente estericamente volumoso capaz de estabilizar os lipossomos; um terceiro lipídeo ou fosfolipídeo derivado de um polímero finalizado por um componente que alveja integrina; dspe ou um quarto lipídeo ou fosfolipídeo derivado de um grupo que se liga a um agente intensificador de contraste em que a pluralidade de lipossomos opcionalmente encapsula um componente de carga útil consistindo em um ou mais agentes bioativos.
35.20200261605FUNCTIONALIZED LIPOSOMES FOR IMAGING MISFOLDED PROTEINS
US - 20.08.2020
Int.Class
A61K 49/12
Appl.No 16751943
Applicant ALZECA BIOSCIENCES, LLC
Inventor Ananth V. ANNAPRAGADA
Phospholipid-polymer-aromatic conjugates comprising binding ligands, liposome compositions including the phospholipid-polymer-aromatic conjugates, and binding ligands having an affinity for misfolded proteins are described. The phospholipid-polymer-aromatic conjugate may be represented by Structural Formula I: PL-AL-HP-X-BL (I). In Formula I, PL is a phospholipid, AL is an aliphatic linkage, HP is hydrophilic polymer, X is a link between the phospholipid-polymer and the binding ligand, and BL is polycyclic aromatic compound that functions as a binding ligand. The liposomal compositions may be useful for the imaging of misfolded and/or aggregated proteins.

36.WO/2020/154623FUNCTIONALIZED LIPOSOMES FOR IMAGING MISFOLDED PROTEINS
WO - 30.07.2020
Int.Class
A61K 9/00
Appl.No PCT/US2020/014995
Applicant ALZECA BIOSCIENCES, LLC
Inventor ANNAPRAGADA, Ananth V.
Phospholipid-polymer-aromatic conjugates comprising binding ligands, liposome compositions including the phospholipid-polymer-aromatic conjugates, and binding ligands having an affinity for misfolded proteins are described. The phospholipid-polymer-aromatic conjugate may be represented by Structural Formula I: PL — AL — HP — X — BL (I). In Formula I, PL is a phospholipid, AL is an aliphatic linkage, HP is hydrophilic polymer, X is a link between the phospholipid-polymer and the binding ligand, and BL is polycyclic aromatic compound that functions as a binding ligand. The liposomal compositions may be useful for the imaging of misfolded and/or aggregated proteins.
37.20200179540MRI imaging of amyloid plaque using liposomes
US - 11.06.2020
Int.Class
A61K 9/00

Appl.No 16791068
Applicant Texas Children's Hospital
Inventor Ananth V. Annapragada
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid-polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-β plaque deposits characteristic of Alzheimer's Disease.

38.WO/2020/106393SKELETAL MATURITY DETERMINATION USING RADIOGRAPHS OF PORTIONS OF A HAND
WO - 28.05.2020
Int.Class
A61B 5/00
Appl.No PCT/US2019/057245
Applicant BAYLOR COLLEGE OF MEDICINE
Inventor REDDY, Nakul Edula
Skeletal age determination using neural networks can use images of only a portion of a patient's hand. For example, rather than train a neural network using entire hand radiographs, the neural network may be trained with radiographs of only digits of the hand, a few digits of the hand, or a single digit of the hand. The neural network can then be used to process radiographs of a patients' digit or digits to obtain a skeletal maturity for the patient. Processing radiographs of individual digits rather than entire hands allows lower-quality (e.g., higher noise) radiographs, such as low-dose radiographs, to be used to accurately determine skeletal maturity.
39.111093717TARGETING NANOPARTICLES
CN - 01.05.2020
Int.Class
A61K 49/00
Appl.No 201880043019.0
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor WOODSIDE DARREN
Disclosed herein is a composition comprising a plurality of liposomes having an average diameter of less than 400 nanometers, wherein the plurality of liposomes comprise: a first lipid or phospholipid; a second lipid or phospholipid which is derivatized with a polymer; and a sterically bulky excipient capable of stabilizing the liposomes; a third lipid or phospholipid derivatized with a polymer terminated with an integrin targeting component; DSPE or a fourth lipid or phospholipid derivatized with a group binding a contrast enhancing agent wherein the plurality of liposomes optionally encapsulates a payload component consisting of one or more bioactive agents.
40.20200069820MRI IMAGING OF AMYLOID PLAQUE USING LIPOSOMES
US - 05.03.2020
Int.Class
A61K 49/18
Appl.No 16677751
Applicant Texas Children's Hospital
Inventor Ananth Annapragada
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid-polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-β plaque deposits characteristic of Alzheimer's Disease.

41.3615087TARGETING NANOPARTICLES
EP - 04.03.2020
Int.Class
A61K 49/00

Appl.No 18792279
Applicant TEXAS CHILDRENS HOSPITAL
Inventor WOODSIDE DARREN
Disclosed herein is a composition comprising a plurality of liposomes having an average diameter of less than 400 nanometers, wherein the plurality of liposomes comprise: a first lipid or phospholipid; a second lipid or phospholipid which is derivatized with a polymer; and a sterically bulky excipient capable of stabilizing the liposomes; a third lipid or phospholipid derivatized with a polymer terminated with an integrin targeting component; DSPE or a fourth lipid or phospholipid derivatized with a group binding a contrast enhancing agent wherein the plurality of liposomes optionally encapsulates a payload component consisting of one or more bioactive agents.
42.2743704Obtención de imágenes de IRM de la placa amiloide usando liposomas
ES - 20.02.2020
Int.Class
A61K 49/00
Appl.No 15849750
Applicant Texas Children's Hospital
Inventor ANNAPRAGADA, Ananth
Una composición liposomal que comprende: una membrana, que comprende: un conjugado fosfolípido-polímero-aromático, estando el resto aromático en el conjugado fosfolípido-polímero-aromático representado por:**Fórmula** y estando el resto fosfolípido-polímero en el conjugado fosfolípido-polímero-aromático representado por:**Fórmula** en donde: R2 es un grupo de unión que comprende de 1 a 6 átomos de carbono que es uno de: alquileno o alcoxialquileno; R3 es hidrógeno, alquilo C1-C6 o alcoxialquilo C1-C6 y R3 distinto de hidrógeno está sustituido con cero, uno o más -OH; pirimidina P está sustituida con cero, uno o más de -OH, -O-alquilo y -NH2; n es un número entero de aproximadamente 60 a aproximadamente 100; y m es uno de: 12, 13, 14, 15, 16, 17 o 18.
43.201917046911"TARGETING NANOPARTICLES"
IN - 03.01.2020
Int.Class
A61K 49/00
Appl.No 201917046911
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor WOODSIDE, Darren
Disclosed herein is a composition comprising a plurality of liposomes having an average diameter of less than 400 nanometers, wherein the plurality of liposomes comprise: a first lipid or phospholipid; a second lipid or phospholipid which is derivatized with a polymer; and a sterically bulky excipient capable of stabilizing the liposomes; a third lipid or phospholipid derivatized with a polymer terminated with an integrin targeting component; DSPE or a fourth lipid or phospholipid derivatized with a group binding a contrast enhancing agent wherein the plurality of liposomes optionally encapsulates a payload component consisting of one or more bioactive agents.
44.759001TARGETING NANOPARTICLES
NZ - 29.11.2019
Int.Class
A61K 49/00
Appl.No 759001
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor WOODSIDE, Darren
Disclosed herein is a composition comprising a plurality of liposomes having an average diameter of less than 400 nanometers, wherein the plurality of liposomes comprise: a first lipid or phospholipid; a second lipid or phospholipid which is derivatized with a polymer; and a sterically bulky excipient capable of stabilizing the liposomes; a third lipid or phospholipid derivatized with a polymer terminated with an integrin targeting component; DSPE or a fourth lipid or phospholipid derivatized with a group binding a contrast enhancing agent wherein the plurality of liposomes optionally encapsulates a payload component consisting of one or more bioactive agents.

45.2019246775LIPID –BASED NANOPARTICLES
AU - 24.10.2019
Int.Class
A61K 49/18
Appl.No 2019246775
Applicant Alzeca Biosciences, LLC
Inventor Annapragada, Ananth
Compounds comprising a phospholipid-polymer-aromatic conjugate are provided. The compounds may be used in liposomal compositions. The liposomal compositions, may be useful for imaging and/or the treatment of amyloid-p plaque deposits characteristic of Alzheimer's Disease.
46.3548002HYDROPHILIC FLUORINATED MOLECULES FOR LIPOSOMAL 19F MRI PROBES WITH UNIQUE MR SIGNATURES
EP - 09.10.2019
Int.Class
A61K 49/10
Appl.No 17877351
Applicant TEXAS CHILDRENS HOSPITAL
Inventor ANNAPRAGADA ANANTH
Readily available hydrophilic and small organofluorine moieties were condensed via "click chemistry" to generate nonionic hydrophilic fluorinated molecules with unique 19F MR signatures. These were used to fabricate stable liposome formulations for imaging various tissue types. This approach was tailored to exploit the broad spectrum of organic 19F molecular species and to generate probes with distinct 19F MRI signatures for simultaneous assessment of multiple molecular targets within the same target volume.
47.3542828MRI IMAGING OF AMYLOID PLAQUE USING LIPOSOMES
EP - 25.09.2019
Int.Class
A61K 49/00
Appl.No 19172751
Applicant TEXAS CHILDRENS HOSPITAL
Inventor ANNAPRAGADA ANANTH
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid-polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-β plaque deposits characteristic of Alzheimer's Disease.
48.2019151664LIPID-BASED NANOPARTICLES
JP - 12.09.2019
Int.Class
A61K 9/127
Appl.No 2019098174
Applicant BOARD OF REGENTS OF THE UNIV OF TEXAS SYSTEM
Inventor ANANTH ANNAPRAGADA
PROBLEM TO BE SOLVED: To provide lipid-based nanoparticle compositions useful for imaging and/or treatment of amyloid-β plaque deposits characteristic of Alzheimer's disease.

SOLUTION: A liposomal composition comprises: a membrane, comprising a first phospholipid, cholesterol, a second phospholipid derivatized with a polymer, and a third phospholipid being a phospholipid-polymer-aromatic compound conjugate; and a nonradioactive contrast enhancing agent that is encapsulated at least partly by or bound to the membrane.

SELECTED DRAWING: None

49.20190255196Liposomal gadolinium (GD) contrast agent “NMRX” for T1-MRI
US - 22.08.2019
Int.Class
A61K 49/18
Appl.No 16333832
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor Ananth Annapragada
The present invention is directed towards new chemical entities based on a lipid-paramagnetic metal ion chelate. The lipid portion of the compound intercalates into the membrane of a liposome. The compounds of the invention find particular use as paramagnetic contrast media for magnetic resonance imaging. It has been surprisingly discovered that the liposomal contrast media do not substantially cross the placental barrier into the vasculature of the fetus(es) when administered to a pregnant subject. These novel compounds are useful in the diagnosis of disorders and diseases in both gravid and non-gravid subjects. The invention is also directed towards pharmaceutical compositions comprising these compounds and the uses of these compounds.

50.3512570LIPOSOMAL GADOLINIUM (GD) CONTRAST AGENT FOR T1-MRI
EP - 24.07.2019
Int.Class
A61K 49/18
Appl.No 17850396
Applicant TEXAS CHILDRENS HOSPITAL
Inventor ANNAPRAGADA ANANTH
The present invention is directed towards new chemical entities based on a lipid-paramagnetic metal ion chelate. The lipid portion of the compound intercalates into the membrane of a liposome. The compounds of the invention find particular use as paramagnetic contrast media for magnetic resonance imaging. It has been surprisingly discovered that the liposomal contrast media do not substantially cross the placental barrier into the vasculature of the fetus(es) when administered to a pregnant subject. These novel compounds are useful in the diagnosis of disorders and diseases in both gravid and non-gravid subjects. The invention is also directed towards pharmaceutical compositions comprising these compounds and the uses of these compounds.
51.110022859HYDROPHILIC FLUORINATED MOLECULES FOR LIPOSOMAL 19F MRI PROBES WITH UNIQUE MR SIGNATURES
CN - 16.07.2019
Int.Class
A61K 9/10
Appl.No 201780073599.3
Applicant TEXAS CHILDRENS HOSPITAL
Inventor ANNAPRAGADA ANANTH
Readily available hydrophilic and small organofluorine moieties were condensed via click chemistry to generate nonionic hydrophilic fluorinated molecules with unique 19F MR signatures. These were usedto fabricate stable liposome formulations for imaging various tissue types. This approach was tailored to exploit the broad spectrum of organic 19F molecular species and to generate probes with distinct 19F MRI signatures for simultaneous assessment of multiple molecular targets within the same target volume.
52.109906090NOVEL LIPOSOMAL GADOLINIUM (GD) CONTRAST AGENT "NMRX" FOR T1-MRI
CN - 18.06.2019
Int.Class
A61K 49/10
Appl.No 201780068432.8
Applicant TEXAS CHILDRENS HOSPITAL
Inventor ANNAPRAGADA ANANTH

The present invention is directed towards new chemical entities based on a lipid-paramagnetic metal ion chelate. The lipid portion of the compound intercalates into the membrane of a liposome. The compounds of the invention find particular use as paramagnetic contrast media for magnetic resonance imaging. It has been surprisingly discovered that the liposomal contrast media do not substantially cross the placental barrier into the vasculature of the fetus(es) when administered to a pregnant subject. These novel compounds are useful in the diagnosis of disorders and diseases in both gravid andnon-gravid subjects. The invention is also directed towards pharmaceutical compositions comprising these compounds and the uses of these compounds.
53.2694116LIPID-BASED NANOPARTICLES
PL - 31.12.2018
Int.Class
A61K 49/18
Appl.No 12767275
Applicant
Inventor ANANTH ANNAPRAGADA
54.WO/2018/201069TARGETING NANOPARTICLES
WO - 01.11.2018
Int.Class
A61K 49/00
Appl.No PCT/US2018/029991
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor WOODSIDE, Darren
Disclosed herein is a composition comprising a plurality of liposomes having an average diameter of less than 400 nanometers, wherein the plurality of liposomes comprise: a first lipid or phospholipid; a second lipid or phospholipid which is derivatized with a polymer; and a sterically bulky excipient capable of stabilizing the liposomes; a third lipid or phospholipid derivatized with a polymer terminated with an integrin targeting component; DSPE or a fourth lipid or phospholipid derivatized with a group binding a contrast enhancing agent wherein the plurality of liposomes optionally encapsulates a payload component consisting of one or more bioactive agents.
55.2018258681Targeting nanoparticles
AU - 01.11.2018
Int.Class
A61K 49/00
Appl.No 2018258681
Applicant Texas Children's Hospital
Inventor Annapragada, Ananth
Disclosed herein is a composition comprising a plurality of liposomes having an average diameter of less than 400 nanometers, wherein the plurality of liposomes comprise: a first lipid or phospholipid; a second lipid or phospholipid which is derivatized with a polymer; and a sterically bulky excipient capable of stabilizing the liposomes; a third lipid or phospholipid derivatized with a polymer terminated with an integrin targeting component; DSPE or a fourth lipid or phospholipid derivatized with a group binding a contrast enhancing agent wherein the plurality of liposomes optionally encapsulates a payload component consisting of one or more bioactive agents.
56.3061174TARGETING NANOPARTICLES
CA - 01.11.2018
Int.Class
A61K 49/12
Appl.No 3061174
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor WOODSIDE, DARREN
Disclosed herein is a composition comprising a plurality of liposomes having an average diameter of less than 400 nanometers, wherein the plurality of liposomes comprise: a first lipid or phospholipid; a second lipid or phospholipid which is derivatized with a polymer; and a sterically bulky excipient capable

of stabilizing the liposomes; a third lipid or phospholipid derivatized with a polymer terminated with an integrin targeting component; DSPE or a fourth lipid or phospholipid derivatized with a group binding a contrast enhancing agent wherein the plurality of liposomes optionally encapsulates a payload component consisting of one or more bioactive agents.
57.2694116LIPID-BASED NANOPARTICLES
PT - 12.10.2018
Int.Class
A61K 49/18
Appl.No 127672756
Applicant BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM
Inventor ANANTH ANNAPRAGADA
58.2694116LIPID-BASEREDE NANOPARTIKLER
DK - 03.09.2018
Int.Class
A61K 49/18
Appl.No 12767275
Applicant Board of Regents of the University of Texas System
Inventor ANNAPRAGADA, Ananth
Lipid-based nanoparticle compositions are provided. The compositions generally comprise lipid-hydrophilic polymer- amyloid binding ligand conjugates, and may be liposomal compositions. The compositions, including the liposomal compositions, may be useful for imaging and/or the treatment of amyloid-β plaque deposits characteristic of Alzheimer' s Disease.
59.3366313LIPID-BASED NANOPARTICLES
EP - 29.08.2018
Int.Class
A61K 49/18
Appl.No 18167725
Applicant UNIV TEXAS
Inventor ANNAPRAGADA ANANTH
Lipid-based nanoparticle compositions are provided. The compositions generally comprise lipid-hydrophilic polymer-amyloid binding ligand conjugates, and may be liposomal compositions. The compositions, including the liposomal compositions, may be useful for imaging and/or the treatment of amyloid-² plaque deposits characteristic of Alzheimer's Disease.
60.357227LIPID-BASED NANOPARTICLES.
MX - 02.07.2018
Int.Class
A61K 49/00
Appl.No 2013011231
Applicant BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM
Inventor Ananth ANNAPRAGADA
Lipid-based nanoparticle compositions are provided. The compositions generally comprise lipid-hydrophilic polymer- amyloid binding ligand conjugates, and may be liposomal compositions. The compositions, including the liposomal compositions, may be useful for imaging and/or the treatment of amyloid-ß plaque deposits characteristic of Alzheimer' s Disease.
61.20180154025Hydrophilic fluorinated molecules for liposomal 19F MRI probes with unique MR signatures
US - 07.06.2018
Int.Class
A61K 51/00
Appl.No 15827782
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor Ananth Annapragada

Readily available hydrophilic and small organofluorine moieties were condensed via “click chemistry” to generate nonionic hydrophilic fluorinated molecules with unique 19F MR signatures. These were used to fabricate stable liposome formulations for imaging various tissue types. This approach was tailored to exploit the broad spectrum of organic 19F molecular species and to generate probes with distinct 19F MRI signatures for simultaneous assessment of multiple molecular targets within the same target volume.

62.WO/2018/100540HYDROPHILIC FLUORINATED MOLECULES FOR LIPOSOMAL 19F MRI PROBES WITH UNIQUE MR SIGNATURES
WO - 07.06.2018
Int.Class
A61K 9/10
Appl.No PCT/IB2017/057555
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor ANNAPRAGADA, Ananth
Readily available hydrophilic and small organofluorine moieties were condensed via "click chemistry" to generate nonionic hydrophilic fluorinated molecules with unique 19F MR signatures. These were used to fabricate stable liposome formulations for imaging various tissue types. This approach was tailored to exploit the broad spectrum of organic 19F molecular species and to generate probes with distinct 19F MRI signatures for simultaneous assessment of multiple molecular targets within the same target volume.
63.WO/2018/051289NOVEL LIPOSOMAL GADOLINIUM (GD) CONTRAST AGENT "NMRX" FOR T1-MRI
WO - 22.03.2018
Int.Class
A61K 49/10
Appl.No PCT/IB2017/055611
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor ANNAPRAGADA, Ananth
The present invention is directed towards new chemical entities based on a lipid-paramagnetic metal ion chelate. The lipid portion of the compound intercalates into the membrane of a liposome. The compounds of the invention find particular use as paramagnetic contrast media for magnetic resonance imaging. It has been surprisingly discovered that the liposomal contrast media do not substantially cross the placental barrier into the vasculature of the fetus(es) when administered to a pregnant subject. These novel compounds are useful in the diagnosis of disorders and diseases in both gravid and non-gravid subjects. The invention is also directed towards pharmaceutical compositions comprising these compounds and the uses of these compounds.
64.WO/2018/047149CELL FILTRATION AS A MEANS OF INTRODUCING EXOGENOUS MATERIAL INTO A CELL
WO - 15.03.2018
Int.Class
C12N 5/07
Appl.No PCT/IB2017/055502
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor ANNAPRAGADA, Ananth
Disclosed are methods of delivering substances into cells by passing cells through porous membranes. Disclosed embodiments include methods of delivering a substance into cells by providing a cell suspension, passing the cell suspension through a porous membrane, and exposing the cells to the substance to be delivered into the cells.
65.2018035167LIPID-BASED NANOPARTICLES
JP - 08.03.2018
Int.Class
A61K 49/00
Appl.No 2017176383

Applicant BOARD OF REGENTS OF THE UNIV OF TEXAS SYSTEM
Inventor ANANTH ANNAPRAGADA
PROBLEM TO BE SOLVED: To provide lipid-based nanoparticle compositions.

SOLUTION: A composition contains a hydrophilic PEG polymer derivative derivatized using one of DPPC, DSPE, DSPC and DPPE, and an aromatic compound represented by formula VII (R, R1, R2, R1' and R2' independently represent H, F, Cl, Br, I, alkyl, aryl, OH, O-alkyl, O-aryl, NH2, NH-alkyl, N-dialkyl, carboxyl, sulfonyl, carbamoyl or glycosyl; a, b, c, d, e independently represent a carbon atom).

SELECTED DRAWING: None

66.20180043039Lipid-based nanoparticles
US - 15.02.2018
Int.Class
A61K 9/127
Appl.No 15797816
Applicant BOARD OF REGENTS OF THE UNIVERSITY OF HOUSTON SYSTEM
Inventor Ananth V. Annapragada
Lipid-based nanoparticle compositions are provided. The compositions generally comprise lipid-hydrophilic polymer-amyloid binding ligand conjugates, and may be liposomal compositions. The compositions, including the liposomal compositions, may be useful for imaging and/or the treatment of amyloid-β plaque deposits characteristic of Alzheimer's Disease.

67.371295MRI IMAGING OF AMYLOID PLAQUE USING LIPOSOMES.
MX - 24.01.2018
Int.Class
A61K 49/00
Appl.No 2017004695
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor Mayank SRIVASTAVA
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid- polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-ß plaque deposits characteristic of Alzheimer's Disease.
68.112017007238composição lipossomal compreendendo um conjugado fosfolipídio-polímero-aromático e um agente potencializador de contraste de imagem de ressonância magnética não radioativo para geração de imagem de depósitos amiloides
BR - 16.01.2018
Int.Class
A61K 49
Appl.No 112017007238
Applicant ANANTH ANNAPRAGADA
Inventor ANANTH ANNAPRAGADA
geração de imagem de irm de placa amiloide usando lipossomas. são apresentados compostos aromáticos, conjugados de fosfolipídio-polímero-aromático que compreendem os compostos aromáticos e as composições de lipossomas incluindo os conjugados de fosfolipídio-polímero-aromático. as composições lipossomais podem ser úteis para a geração de imagens da doença de alzheimer, por exemplo, geração de imagens de depósitos da placa beta-amiloide característicos da doença de alzheimer.
69.201727016039MRI IMAGING OF AMYLOID PLAQUE USING LIPOSOMES
IN - 03.11.2017

Int.Class
A61K 49/04
Appl.No 201727016039
Applicant TEXAS CHILDRENS HOSPTIAL
Inventor ANNAPRAGADA Ananth
Provided are aromatic compounds phospholipid polymer aromatic conjugates comprising the aromatic compounds and liposome compositions including the phospholipid polymer aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer s Disease for example imaging of the amyloid ß plaque deposits characteristic of Alzheimer s Disease.
70.2017232156LIPID –BASED NANOPARTICLES
AU - 12.10.2017
Int.Class
A61K 49/18
Appl.No 2017232156
Applicant Alzeca Biosciences, LLC
Inventor Annapragada, Ananth
Compounds comprising a phospholipid-polymer-aromatic conjugate are provided. The compounds may be used in liposomal compositions. The liposomal compositions, may be useful for imaging and/or the treatment of amyloid- plaque deposits characteristic of Alzheimer's Disease.
71.107106708Mri imaging of amyloid plaque using liposomes
CN - 29.08.2017
Int.Class
A61K 49/04
Appl.No 201580066712.6
Applicant TEXAS CHILDREN S HOSPTIAL
Inventor ANNAPRAGADA ANANTH
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid- polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-beta plaque deposits characteristic of Alzheimer's Disease.
72.3204051MRI IMAGING OF AMYLOID PLAQUE USING LIPOSOMES
EP - 16.08.2017
Int.Class
A61K 49/00
Appl.No 15849750
Applicant TEXAS CHILDRENS HOSPITAL
Inventor ANNAPRAGADA ANANTH
73.107029245Vesicle Compositions
CN - 11.08.2017
Int.Class
A61K 47/69
Appl.No 201710103158.5
Applicant SENSULIN LLC
Inventor ANNAPRAGADA ANANTH
Vesicle compositions are provided that comprise a therapeutic compound. The vesicle compositions may be capable of releasing the therapeutic compound in response to the presence of an external trigger. The vesicle compositions may comprise a plurality of biocompatible vesicles. The biocompatible vesicles may comprise a therapeutic compound for treatment of a patient in need thereof, and one or more cross-linkages between two or more of the biocompatible vesicles, each cross-linkage comprising a chemical sensing moiety and a sensed moiety. In some embodiments, the therapeutic compound may be any compound that provides palliative, curative, or otherwise beneficial effects to a patent.
74.112014010879métodos e composições para caracterizar objetivamente imagens médicas
BR - 13.06.2017

Int.Class
G06K 9
Appl.No 112014010879
Applicant ANANTH ANNAPRAGADA
Inventor ANANTH ANNAPRAGADA
resumopatente de invenção: "métodos e composições para caracterizar objetivamente imagens médicas". a presente invenção refere-se aos métodos e às composições que são fornecidos objetivamente caracterizando uma lesão patológica em um paciente. o método compreende: introduzir no paciente um agente intensificador de contraste; submeter o paciente a pelo menos uma entre a visualização de ressonância magnética e a tomografia computadorizada para obter uma imagem; e aplicar uma função de autocorrelação 3-d a um subdomínio de interesse da imagem para obter pelo menos um espectro de autocorrelação 3-d. o método pode adicionalmente compreender a comparação de pelo menos um espectro de autocorrelação 3-d com um espectro de autocorrelação 3-d preexistente que é característico para a lesão patológica. em um exemplo, os métodos e as composições podem ser úteis para a identificação e objetivamente a caracterização de depósitos de placa amiloide característicos da doença de alzheimer.
75.20170080111MRI imaging of amyloid plaque using liposomes
US - 23.03.2017
Int.Class
A61K 9/00
Appl.No 15366667
Applicant Texas Children's Hospital
Inventor Ananth Annapragada
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid-polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-β plaque deposits characteristic of Alzheimer's Disease.

76.2015330824MRI imaging of amyloid plaque using liposomes
AU - 14.04.2016
Int.Class
A61K 49/04
Appl.No 2015330824
Applicant Annapragada, Ananth
Inventor Annapragada, Ananth
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid- polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-β plaque deposits characteristic of Alzheimer's Disease.
77.2963941MRI IMAGING OF AMYLOID PLAQUE USING LIPOSOMES
CA - 14.04.2016
Int.Class
C07F 9/6558
Appl.No 2963941
Applicant TEXAS CHILDREN'S HOSPTIAL
Inventor TANIFUM, ERIC A.
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid- polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-ß plaque deposits characteristic of Alzheimer's Disease.
78.20160101197MRI imaging of amyloid plaque using liposomes
US - 14.04.2016
Int.Class

A61K 9/00
Appl.No 14878745
Applicant Texas Children's Hospital
Inventor Ananth V. Annapragada
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid-polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-β plaque deposits characteristic of Alzheimer's Disease.

79.WO/2016/057812MRI IMAGING OF AMYLOID PLAQUE USING LIPOSOMES
WO - 14.04.2016
Int.Class
A61K 49/04
Appl.No PCT/US2015/054732
Applicant TEXAS CHILDREN'S HOSPTIAL
Inventor ANNAPRAGADA, Ananth
Provided are aromatic compounds, phospholipid-polymer-aromatic conjugates comprising the aromatic compounds, and liposome compositions including the phospholipid- polymer-aromatic conjugates. The liposomal compositions may be useful for imaging of Alzheimer's Disease, for example, imaging of the amyloid-β plaque deposits characteristic of Alzheimer's Disease.
80.BR112017007238COMPOSIÇÃO LIPOSSOMAL COMPREENDENDO UM CONJUGADO FOSFOLIPÍDIO-POLÍMERO-AROMÁTICO E UM AGENTE POTENCIALIZADOR DE CONTRASTE DE IMAGEM DE RESSONÂNCIA MAGNÉTICA NÃO RADIOATIVO PARA GERAÇÃO DE IMAGEM DE DEPÓSITOS AMILOIDES
BR - 08.10.2015
Int.Class
A61K 49
Appl.No BR112017007238
Applicant TEXAS CHILDREN'S HOSPITAL
Inventor ANANTH ANNAPRAGADA
GERAÇÃO DE IMAGEM DE IRM DE PLACA AMILOIDE USANDO LIPOSSOMAS. São apresentados compostos aromáticos, conjugados de fosfolipídio-polímero-aromático que compreendem os compostos aromáticos e as composições de lipossomas incluindo os conjugados de fosfolipídio-polímero-aromático. As composições lipossomais podem ser úteis para a geração de imagens da Doença de Alzheimer, por exemplo, geração de imagens de depósitos da placa Beta-amiloide característicos da Doença de Alzheimer.
81.20150283272Dual mode gadolinium nanoparticle contrast agents
US - 08.10.2015
Int.Class
A61K 49/18
Appl.No 13283272
Applicant Vikas Kundra
Inventor Vikas Kundra
Provided herein are nanoparticle-based gadolinium (Gd) agents which may be used, e.g., in T1-weighted MR imaging (MRI). In various embodiments, dual-Gd liposomal agents are provided which contain both core-encapsulated Gd as well as surface-conjugated Gd. In various embodiments, these agents were observed to deliver a higher concentrations of Gd and result in substantial improvements in signal to noise ratios and contrast to noise ratios. Also provided are methods for in vivo imaging and/or treating diseases such as cancer or tumor in a subject.

82.2211/DELNP/2014METHODS AND COMPOSITIONS FOR OBJECTIVELY CHARACTERIZING MEDICAL IMAGES
IN - 06.03.2015
Int.Class

G06K 9/62
Appl.No 2211/DELNP/2014
Applicant ANNAPRAGADA Ananth
Inventor STAROSOLSKI Zbigniew
Methods and compositions are provided for objectively characterizing a pathological lesion in a patient. The method comprises: introducing into the patient a contrast enhancing agent; subjecting the patient to at least one of magnetic resonance imaging and computed tomography to obtain an image; and applying a 3 D autocorrelation function to a subdomain of interest of the image to obtain at least one 3 D autocorrelation spectrum. The method may further comprise comparing the at least one 3 D autocorrelation spectrum to a pre existing 3 D autocorrelation spectrum that is characteristic for the pathological lesion. In one example the methods and compositions may be useful for identifying and objectively characterizing amyloid plaque deposits characteristic of Alzheimer s Disease.
83.104274840Nano-scale contrast agents and methods of use
CN - 14.01.2015
Int.Class
A61K 49/00
Appl.No 201410270057.3
Applicant MARVAL BIOSCIENCES, INC.
Inventor ANNAPRAGADA ANANTH
The application relates to nano-scale contrast agents and methods of use. The present invention discloses compositions and methods, for evaluating a subject's vasculature integrity, for differentiating between a malignant lesion and a benign lesion, for evaluating the accessibility of a tumor to nano-sized therapeutics, for treating tumors, and for live or real time monitoring of a nano-probe's biodistribution.
84.8319/DELNP/2013LIPID BASED NANOPARTICLES
IN - 19.12.2014
Int.Class
A61K 49/00
Appl.No 8319/DELNP/2013
Applicant BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM
Inventor ANNAPRAGADA Ananth
Lipid based nanoparticle compositions are provided. The compositions generally comprise lipid hydrophilic polymer amyloid binding ligand conjugates and may be liposomal compositions. The compositions including the liposomal compositions may be useful for imaging and/or the treatment of amyloid ß plaque deposits characteristic of Alzheimer s Disease.
85.3188/DELNP/2013VESICLE COMPOSITIONS
IN - 14.11.2014
Int.Class
A61K 9/127
Appl.No 3188/DELNP/2013
Applicant SENSULIN LLC
Inventor ANNAPRAGADA Ananth
Vesicle compositions are provided that comprise a therapeutic compound. The vesicle compositions may be capable of releasing the therapeutic compound in response to the presence of an external trigger. The vesicle compositions may comprise a plurality of biocompatible vesicles. The biocompatible vesicles may comprise a therapeutic compound for treatment of a patient in need thereof and one or more cross linkages between two or more of the biocompatible vesicles each cross linkage comprising a chemical sensing moiety and a sensed moiety. In some embodiments the therapeutic compound may be any compound that provides palliative curative or otherwise beneficial effects to a patent.
86.RE045195Compositions and methods for enhancing contrast in imaging
US - 14.10.2014
Int.Class
A61B 5/055
Appl.No 13768484

Applicant Marval Pharma, Inc.
Inventor Annapragada Ananth
Example compositions of liposomes with hydrophilic polymers on their surface, and containing relatively high concentrations of contrast-enhancing agents for computed tomography are provided. Example pharmaceutical compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes containing high concentrations of contrast-enhancing agents, and example methods for using the compositions.

87.366972METHODS AND COMPOSITIONS FOR OBJECTIVELY CHARACTERIZING MEDICAL IMAGES.
MX - 22.08.2014
Int.Class
G06K 9/62
Appl.No 2014003621
Applicant Ananth ANNAPRAGADA
Inventor Zbigniew STAROSOLSKI
Methods and compositions are provided for objectively characterizing a pathological lesion in a patient. The method comprises: introducing into the patient a contrast enhancing agent; subjecting the patient to at least one of magnetic resonance imaging and computed tomography to obtain an image; and applying a 3-D autocorrelation function to a subdomain of interest of the image to obtain at least one 3-D autocorrelation spectrum. The method may further comprise comparing the at least one 3-D autocorrelation spectrum to a pre-existing 3-D autocorrelation spectrum that is characteristic for the pathological lesion. In one example, the methods and compositions may be useful for identifying and objectively characterizing amyloid plaque deposits characteristic of Alzheimer's Disease.
88.20140227349Vesicle compositions
US - 14.08.2014
Int.Class
A61K 9/127
Appl.No 14177129
Applicant Sensulin LLC
Inventor Ananth Annapragada
Vesicle compositions are provided that comprise a therapeutic compound. The vesicle compositions may be capable of releasing the therapeutic compound in response to the presence of an external trigger. The vesicle compositions may comprise a plurality of biocompatible vesicles. The biocompatible vesicles may comprise a therapeutic compound for treatment of a patient in need thereof, and one or more cross-linkages between two or more of the biocompatible vesicles, each cross-linkage comprising a chemical sensing moiety and a sensed moiety. In some embodiments, the therapeutic compound may be any compound that provides palliative, curative, or otherwise beneficial effects to a patent.

89.2756459METHODS AND COMPOSITIONS FOR OBJECTIVELY CHARACTERIZING MEDICAL IMAGES
EP - 23.07.2014
Int.Class
G06K 9/62
Appl.No 13738451
Applicant ANNAPRAGADA ANANTH
Inventor ANNAPRAGADA ANANTH
Methods and compositions are provided for objectively characterizing a pathological lesion in a patient. The method comprises: introducing into the patient a contrast enhancing agent; subjecting the patient to at least one of magnetic resonance imaging and computed tomography to obtain an image; and applying a 3-D autocorrelation function to a subdomain of interest of the image to obtain at least one 3-D autocorrelation spectrum. The method may further comprise comparing the at least one 3-D autocorrelation spectrum to a pre-existing 3-D autocorrelation spectrum that is characteristic for the

pathological lesion. In one example, the methods and compositions may be useful for identifying and objectively characterizing amyloid plaque deposits characteristic of Alzheimer's Disease.
90.2013209437Methods and compositions for objectively characterizing medical images
AU - 15.05.2014
Int.Class
G06K 9/62
Appl.No 2013209437
Applicant Annapragada, Ananth
Inventor Annapragada, Ananth
Methods and compositions are provided for objectively characterizing a pathological lesion in a patient. The method comprises: introducing into the patient a contrast enhancing agent; subjecting the patient to at least one of magnetic resonance imaging and computed tomography to obtain an image; and applying a 3-D autocorrelation function to a subdomain of interest of the image to obtain at least one 3-D autocorrelation spectrum. The method may further comprise comparing the at least one 3-D autocorrelation spectrum to a pre-existing 3-D autocorrelation spectrum that is characteristic for the pathological lesion. In one example, the methods and compositions may be useful for identifying and objectively characterizing amyloid plaque deposits characteristic of Alzheimer's Disease.
91.2014077006NANO-SCALE CONTRAST AGENT AND USE METHOD THEREOF
JP - 01.05.2014
Int.Class
A61K 9/127
Appl.No 2013261602
Applicant MARVAL BIOSCIENCES INC
Inventor ANNAPRAGADA ANANTH
PROBLEM TO BE SOLVED: To provide a composition and a method for inspection of the vascular system integrity of a subject, discrimination between malignant lesion and benign lesion, inspection of tumor accessible to nano-size therapy, tumor therapy, and live or real time tracking of nano-probe biodistribution.

SOLUTION: An inspection method of vascular system integrity using a liposome comprises administering a composition to the vascular system of a subject, producing an image of the vascular system of the subject, and analyzing the image to detect leak from the vascular system, where the composition comprises a plurality of liposomes in which one or more nonradioactive contrast enhancing agents are included, the plurality of liposomes comprise cholesterol, at least one phospholipid and at least one phospholipid with the polymer chain derivatized, and the average diameter of the plurality of liposomes is less than 150 nanometers.

92.2694116LIPID-BASED NANOPARTICLES
EP - 12.02.2014
Int.Class
A61K 49/18
Appl.No 12767275
Applicant UNIV TEXAS
Inventor ANNAPRAGADA ANANTH
Lipid-based nanoparticle compositions are provided. The compositions generally comprise lipid-hydrophilic polymer- amyloid binding ligand conjugates, and may be liposomal compositions. The compositions, including the liposomal compositions, may be useful for imaging and/or the treatment of amyloid-β plaque deposits characteristic of Alzheimer' s Disease.
93.2680822VESICLE COMPOSITIONS
EP - 08.01.2014
Int.Class

A61K 47/69
Appl.No 12751825
Applicant SENSULIN LLC
Inventor ANNAPRAGADA ANANTH
Vesicle compositions are provided that comprise a therapeutic compound. The vesicle compositions may be capable of releasing the therapeutic compound in response to the presence of an external trigger. The vesicle compositions may comprise a plurality of biocompatible vesicles. The biocompatible vesicles may comprise a therapeutic compound for treatment of a patient in need thereof, and one or more cross-linkages between two or more of the biocompatible vesicles, each cross-linkage comprising a chemical sensing moiety and a sensed moiety. In some embodiments, the therapeutic compound may be any compound that provides palliative, curative, or otherwise beneficial effects to a patent.
94.103429226Vesicle compositions
CN - 04.12.2013
Int.Class
A61K 9/127
Appl.No 201280003498.6
Applicant Sensulin Llc
Inventor Annapragada Ananth
Vesicle compositions are provided that comprise a therapeutic compound. The vesicle compositions may be capable of releasing the therapeutic compound in response to the presence of an external trigger. The vesicle compositions may comprise a plurality of biocompatible vesicles. The biocompatible vesicles may comprise a therapeutic compound for treatment of a patient in need thereof, and one or more cross-linkages between two or more of the biocompatible vesicles, each cross-linkage comprising a chemical sensing moiety and a sensed moiety. In some embodiments, the therapeutic compound may be any compound that provides palliative, curative, or otherwise beneficial effects to a patent.
95.2012239888Lipid-based nanoparticles
AU - 07.11.2013
Int.Class
A61K 49/18
Appl.No 2012239888
Applicant Alzeca Biosciences, LLC
Inventor Annapragada, Ananth
Lipid-based nanoparticle compositions are provided. The compositions generally comprise lipid-hydrophilic polymer-amyloid binding ligand conjugates, and may be liposomal compositions. The compositions, including the liposomal compositions comprising, may be useful for imaging and/or the treatment of amyloid-β plaque deposits characteristic of Alzheimer's Disease. One such method for imaging amyloid deposits in a patient is provided, the method comprising: introducing into the patient a detectable quantity of a liposomal composition comprising a lipid-hydrophilic polymer-Formula I ligand conjugate.
96.345504VESICLE COMPOSITIONS.
MX - 25.10.2013
Int.Class
A61K 38/28
Appl.No 2013004146
Applicant SENSULIN, LLC
Inventor ANANTH ANNAPRAGADA
La presente invención se refiere a composiciones de vesícula que comprenden un compuesto terapéutico. Las composiciones de vesícula pueden ser capaces de liberar el compuesto terapéutico en respuesta a la presencia de un activador externo. Las composiciones de vesícula pueden comprender una pluralidad de vesículas biocompatibles. Las vesículas biocompatibles pueden comprender un compuesto terapéutico para el tratamiento de un paciente en necesidad del mismo y una o más reticulaciones entre dos o más de las vesículas biocompatibles, cada reticulación comprendiendo una porción de percepción química y una segunda porción. En algunas modalidades, el compuesto

terapéutico puede ser cualquier compuesto que proporciona efectos curativos, paliativos o de otra manera benéficos para un paciente.
97.20130189187Nano-scale contrast agents and methods of use
US - 25.07.2013
Int.Class
A61K 49/00
Appl.No 13717455
Applicant Annapragada Ananth
Inventor Annapragada Ananth
Compositions and methods are disclosed for evaluating a subject's vasculature integrity, for differentiating between a malignant lesion and a benign lesion, for evaluating the accessibility of a tumor to nano-sized therapeutics, for treating tumors, and for live or real time monitoring of a nano-probe's biodistribution.

98.20130190605Methods and compositions for objectively characterizing medical images
US - 25.07.2013
Int.Class
A61B 6/00
Appl.No 13745813
Applicant Ananth Annapragada
Inventor Ananth Annapragada
Methods and compositions are provided for objectively characterizing a pathological lesion in a patient. The method comprises: introducing into the patient a contrast enhancing agent; subjecting the patient to magnetic resonance imaging to obtain an image; and applying a 3-D autocorrelation function to a subdomain of interest of the image to obtain at least one 3-D autocorrelation spectrum. The method may further comprise comparing the at least one 3-D autocorrelation spectrum to a pre-existing 3-D autocorrelation spectrum that is characteristic for the pathological lesion. In one example, the methods and compositions may be useful for identifying and objectively characterizing amyloid plaque deposits characteristic of Alzheimer's Disease.

99.WO/2013/110013METHODS AND COMPOSITIONS FOR OBJECTIVELY CHARACTERIZING MEDICAL IMAGES
WO - 25.07.2013
Int.Class
G06K 9/62
Appl.No PCT/US2013/022336
Applicant ANNAPRAGADA, Ananth
Inventor ANNAPRAGADA, Ananth
Methods and compositions are provided for objectively characterizing a pathological lesion in a patient. The method comprises: introducing into the patient a contrast enhancing agent; subjecting the patient to at least one of magnetic resonance imaging and computed tomography to obtain an image; and applying a 3-D autocorrelation function to a subdomain of interest of the image to obtain at least one 3-D autocorrelation spectrum. The method may further comprise comparing the at least one 3-D autocorrelation spectrum to a pre-existing 3-D autocorrelation spectrum that is characteristic for the pathological lesion. In one example, the methods and compositions may be useful for identifying and objectively characterizing amyloid plaque deposits characteristic of Alzheimer's Disease.
100.2848994METHODS AND COMPOSITIONS FOR OBJECTIVELY CHARACTERIZING MEDICAL IMAGES
CA - 25.07.2013
Int.Class
A61B 5/00
Appl.No 2848994
Applicant ANNAPRAGADA, ANANTH
Inventor ANNAPRAGADA, ANANTH

Methods and compositions are provided for objectively characterizing a pathological lesion in a patient. The method comprises: introducing into the patient a contrast enhancing agent; subjecting the patient to at least one of magnetic resonance imaging and computed tomography to obtain an image; and applying a 3-D autocorrelation function to a subdomain of interest of the image to obtain at least one 3-D autocorrelation spectrum. The method may further comprise comparing the at least one 3-D autocorrelation spectrum to a pre-existing 3-D autocorrelation spectrum that is characteristic for the pathological lesion. In one example, the methods and compositions may be useful for identifying and objectively characterizing amyloid plaque deposits characteristic of Alzheimer's Disease.
101.2012223210Vesicle compositions
AU - 16.05.2013
Int.Class
A61K 9/127
Appl.No 2012223210
Applicant Board of Regents of The University of Texas System
Inventor Analoui, Mostafa
Vesicle compositions are provided that comprise a therapeutic compound. The vesicle compositions may be capable of releasing the therapeutic compound in response to the presence of an external trigger. The vesicle compositions may comprise a plurality of biocompatible vesicles. The biocompatible vesicles may comprise a therapeutic compound for treatment of a patient in need thereof, and one or more cross-linkages between two or more of the biocompatible vesicles, each cross-linkage comprising a chemical sensing moiety and a sensed moiety. In some embodiments, the therapeutic compound may be any compound that provides palliative, curative, or otherwise beneficial effects to a patent.
102.2578237Compositions and methods for enhancing contrast in imaging
EP - 10.04.2013
Int.Class
A61K 51/00
Appl.No 12189850
Applicant MARVAL BIOSCIENCES INC
Inventor ANNAPRAGADA ANANTH
Example compositions of liposomes with hydrophilic polymers on their surface, and containing relatively high concentrations of contrast- enhancing agents for computed tomography are provided. Example pharmaceutical compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making liposomes containing high concentrations of contrast-enhancing agents, and example methods for using the compositions.
103.2013049702COMPOSITION AND METHOD FOR ENHANCING CONTRAST IN IMAGING
JP - 14.03.2013
Int.Class
A61K 49/04
Appl.No 2012248028
Applicant MARVAL BIOSCIENCES INC
Inventor ANNAPRAGADA ANANTH
PROBLEM TO BE SOLVED: To provide compositions of liposomes with hydrophilic polymers on their surface, and containing relatively high concentration of contrast-enhancing agents for computed tomography.

SOLUTION: The composition includes the liposomes made of cholesterol, at least one phospholipid, and at least one phospholipid derivatized with a polymer chain and having an average diameter of less than 150 nm, and wherein the iodine-containing nonradioactive contrast-enhancing agents are encapsulated into the liposomes.

104.8060/DELNP/2011COMPOSITIONS AND METHODS FOR ENHANCING CONTRAST IN IMAGING
IN - 04.01.2013
Int.Class
A61K 9/127
Appl.No 8060/DELNP/2011
Applicant MARVAL BIOSCIENCES, INC.
Inventor ANANTH ANNAPRAGADA
Examples of compositions of liposomes and methods of making the same containing high concentrations of contrast-enhancing agents for computed tomography are provided. Example compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes stable, that is, resistant to leakage of the contrast-enhancing agents, including the extrusion of the liposomes at high pressures and at high flow rates per total pore area of the extrusion filters.
105.20120258044Lipid-based nanoparticles
US - 11.10.2012
Int.Class
A61K 49/18
Appl.No 13441816
Applicant Ananth Annapragada
Inventor Ananth Annapragada
Lipid-based nanoparticle compositions are provided. The compositions generally comprise lipid-hydrophilic polymer-amyloid binding ligand conjugates, and may be liposomal compositions. The compositions, including the liposomal compositions, may be useful for imaging and/or the treatment of amyloid-β plaque deposits characteristic of Alzheimer's Disease.

106.2831480LIPID-BASED NANOPARTICLES
CA - 11.10.2012
Int.Class
A61K 49/18
Appl.No 2831480
Applicant BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM
Inventor ANNAPRAGADA, ANANTH
Lipid-based nanoparticle compositions are provided. The compositions generally comprise lipid-hydrophilicpolymer-amyloid binding ligand conjugates, and may be liposomal compositions. The compositions, including the liposomal compositions, are useful for imaging intracranial amyloid-.beta. plaque deposits characteristic of Alzheimer's Disease while prompting decreased inflammation.
107.WO/2012/139080LIPID-BASED NANOPARTICLES
WO - 11.10.2012
Int.Class
A61K 49/18
Appl.No PCT/US2012/032649
Applicant BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM
Inventor ANNAPRAGADA, Ananth
Lipid-based nanoparticle compositions are provided. The compositions generally comprise lipid-hydrophilic polymer-amyloid binding ligand conjugates, and may be liposomal compositions. The compositions, including the liposomal compositions comprising, may be useful for imaging and/or the treatment of amyloid-β plaque deposits characteristic of Alzheimer's Disease. One such method for imaging amyloid deposits in a patient is provided, the method comprising: introducing into the patient a detectable quantity of a liposomal composition comprising a lipid-hydrophilic polymer-Formula I ligand conjugate.
108.20120231067Vesicle compositions
US - 13.09.2012

Int.Class
A61K 9/127
Appl.No 13411415
Applicant Annapragada Ananth
Inventor Annapragada Ananth
Vesicle compositions are provided that comprise a therapeutic compound. The vesicle compositions may be capable of releasing the therapeutic compound in response to the presence of an external trigger. The vesicle compositions may comprise a plurality of biocompatible vesicles. The biocompatible vesicles may comprise a therapeutic compound for treatment of a patient in need thereof, and one or more cross-linkages between two or more of the biocompatible vesicles, each cross-linkage comprising a chemical sensing moiety and a sensed moiety. In some embodiments, the therapeutic compound may be any compound that provides palliative, curative, or otherwise beneficial effects to a patent.

109.WO/2012/119117VESICLE COMPOSITIONS
WO - 07.09.2012
Int.Class
A61K 9/127
Appl.No PCT/US2012/027579
Applicant SENSULIN, LLC
Inventor ANNAPRAGADA, Ananth
Vesicle compositions are provided that comprise a therapeutic compound. The vesicle compositions may be capable of releasing the therapeutic compound in response to the presence of an external trigger. The vesicle compositions may comprise a plurality of biocompatible vesicles. The biocompatible vesicles may comprise a therapeutic compound for treatment of a patient in need thereof, and one or more cross-linkages between two or more of the biocompatible vesicles, each cross-linkage comprising a chemical sensing moiety and a sensed moiety. In some embodiments, the therapeutic compound may be any compound that provides palliative, curative, or otherwise beneficial effects to a patent.
110.2822021VESICLE COMPOSITIONS
CA - 07.09.2012
Int.Class
A61K 38/28
Appl.No 2822021
Applicant BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM
Inventor ANANTH ANNAPRAGADA
Vesicle compositions are provided that comprise a therapeutic compound. The vesicle compositions may be capable of releasing the therapeutic compound in response to the presence of an external trigger. The vesicle compositions may comprise a plurality of biocompatible vesicles. The biocompatible vesicles may comprise a therapeutic compound for treatment of a patient in need thereof, and one or more cross-linkages between two or more of the biocompatible vesicles, each cross-linkage comprising a chemical sensing moiety and a sensed moiety. In some embodiments, the therapeutic compound may be any compound that provides palliative, curative, or otherwise beneficial effects to a patent.
111.2410990COMPOSITIONS AND METHODS FOR ENHANCING CONTRAST IN IMAGING
EP - 01.02.2012
Int.Class
A61K 9/127
Appl.No 10754101
Applicant MARVAL BIOSCIENCES INC
Inventor ANNAPRAGADA ANANTH
Examples of compositions of liposomes and methods of making the same containing high concentrations of contrast-enhancing agents for computed tomography are provided. Example compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes stable, that is, resistant to

leakage of the contrast-enhancing agents, including the extrusion of the liposomes at high pressures and at high flow rates per total pore area of the extrusion filters.
112.20120003159COMPOSITIONS AND METHODS FOR ENHANCING CONTRAST IN IMAGING
US - 05.01.2012
Int.Class
A61K 49/04
Appl.No 13256672
Applicant Annapragada Ananth
Inventor Annapragada Ananth
Examples of compositions of liposomes and methods of making the same containing high concentrations of contrast-enhancing agents for computed tomography are provided. Example compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes stable, that is, resistant to leakage of the contrast-enhancing agents, including the extrusion of the liposomes at high pressures and at high flow rates per total pore area of the extrusion filters.

113.3720/DELNP/2010NANO-SCALE CONTRAST AGENTS AND METHODS OF USE
IN - 04.11.2011
Int.Class
A61B 6/00
Appl.No 3720/DELNP/2010
Applicant MARVAL BIOSCIENCES, INC.
Inventor ANANTH ANNAPRAGADA
Compositions and methods are disclosed for evaluating a subject's vasculature integrity, for differentiating between a malignant lesion and a benign lesion, for evaluating the accessibility of a tumor to nano-sized therapeutics, for treating tumors, and for live or real time monitoring of a nano-probe's biodistribution.
114.2010226566Compositions and methods for enhancing contrast in imaging
AU - 03.11.2011
Int.Class
A61K 9/127
Appl.No 2010226566
Applicant Board Of Regents of the University of Texas System
Inventor Annapragada, Ananth
Examples of compositions of liposomes and methods of making the same containing high concentrations of contrast-enhancing agents for computed tomography are provided. Example compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes stable, that is, resistant to leakage of the contrast-enhancing agents, including the extrusion of the liposomes at high pressures and at high flow rates per total pore area of the extrusion filters.
115.2009257279Imaging of atherosclerotic plaques using liposomal imaging agents
AU - 03.02.2011
Int.Class
A61K 51/00
Appl.No 2009257279
Applicant Marval BioSciences, Inc.
Inventor Annapragada, Ananth
Compositions and methods are disclosed for imaging atherosclerotic plaques. Example compositions comprise liposomes, the liposomes comprising: at least one first lipid or phospholipid; at least one second lipid or phospholipid which is derivatized with one or more polymers; and at least one sterically

bulky excipient capable of stabilizing the liposomes. The liposomes encapsulate or associate a contrast enhancing agent.
116.101951835Nano-scale contrast agents and methods of use
CN - 19.01.2011
Int.Class
A61B 6/00
Appl.No 200880119329.2
Applicant Marval Biosciences Inc.
Inventor Karathanasis Efstathios
Compositions and methods are disclosed for evaluating a subject's vasculature integrity, for differentiating between a malignant lesion and a benign lesion, for evaluating the accessibility of a tumor to nano-sized therapeutics, for treating tumors, and for live or real time monitoring of a nano-probe's biodistribution.
117.2755998COMPOSITIONS AND METHODS FOR ENHANCING CONTRAST IN IMAGING
CA - 23.09.2010
Int.Class
A61K 49/18
Appl.No 2755998
Applicant MARVAL BIOSCIENCES, INC.
Inventor ANNAPRAGADA, ANANTH
Examples of compositions of liposomes and methods of making the same containing high concentrations of contrast-enhancing agents for computed tomography are provided. Example compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes stable, that is, resistant to leakage of the contrast-enhancing agents, including the extrusion of the liposomes at high pressures and at high flow rates per total pore area of the extrusion filters.
118.WO/2010/107990COMPOSITIONS AND METHODS FOR ENHANCING CONTRAST IN IMAGING
WO - 23.09.2010
Int.Class
A61K 9/127
Appl.No PCT/US2010/027795
Applicant MARVAL BIOSCIENCES, INC.
Inventor ANNAPRAGADA, Ananth
Examples of compositions of liposomes and methods of making the same containing high concentrations of contrast-enhancing agents for computed tomography are provided. Example compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes stable, that is, resistant to leakage of the contrast-enhancing agents, including the extrusion of the liposomes at high pressures and at high flow rates per total pore area of the extrusion filters.
119.2217146NANO-SCALE CONTRAST AGENTS AND METHODS OF USE
EP - 18.08.2010
Int.Class
A61B 6/00
Appl.No 08856187
Applicant MARVAL BIOSCIENCES INC
Inventor ANNAPRAGADA ANANTH
Compositions and methods are disclosed for evaluating a subject's vasculature integrity, for differentiating between a malignant lesion and a benign lesion, for evaluating the accessibility of a tumor to nano-sized therapeutics, for treating tumors, and for live or real time monitoring of a nano-probe's biodistribution.
120.20100202974Nano-scale contrast agents and methods of use

US - 12.08.2010
Int.Class
A61B 5/055
Appl.No 12679742
Applicant Annapragada Ananth
Inventor Annapragada Ananth
Compositions and methods are disclosed for evaluating a subject's vasculature integrity, for differentiating between a malignant lesion and a benign lesion, for evaluating the accessibility of a tumor to nano-sized therapeutics, for treating tumors, and for live or real time monitoring of a nano-probe's biodistribution.

121.2008331764Nano-scale contrast agents and methods of use
AU - 10.06.2010
Int.Class
A61B 6/00
Appl.No 2008331764
Applicant Marval BioSciences, Inc.
Inventor Annapragada, Ananth
Compositions and methods are disclosed for evaluating a subject's vasculature integrity, for differentiating between a malignant lesion and a benign lesion, for evaluating the accessibility of a tumor to nano-sized therapeutics, for treating tumors, and for live or real time monitoring of a nano-probe's biodistribution.
122.20090311191IMAGING OF ATHEROSCLEROTIC PLAQUES USING LIPOSOMAL IMAGING AGENTS
US - 17.12.2009
Int.Class
A61K 49/06
Appl.No 12483758
Applicant ANNAPRAGADA ANANTH
Inventor Annapragada Ananth
Compositions and methods are disclosed for imaging atherosclerotic plaques. Example compositions comprise liposomes, the liposomes comprising: at least one first lipid or phospholipid; at least one second lipid or phospholipid which is derivatized with one or more polymers; and at least one sterically bulky excipient capable of stabilizing the liposomes. The liposomes encapsulate or associate a contrast enhancing agent.

123.WO/2009/152445IMAGING OF ATHEROSCLEROTIC PLAQUES USING LIPOSOMAL IMAGING AGENTS
WO - 17.12.2009
Int.Class
A61K 51/00
Appl.No PCT/US2009/047228
Applicant MARVAL BIOSCIENCES, INC.
Inventor ANNAPRAGADA, Ananth
Compositions and methods are disclosed for imaging atherosclerotic plaques. Example compositions comprise liposomes, the liposomes comprising: at least one first lipid or phospholipid; at least one second lipid or phospholipid which is derivatized with one or more polymers; and at least one sterically bulky excipient capable of stabilizing the liposomes. The liposomes encapsulate or associate a contrast enhancing agent.
124.20090263326Nano-scale contrast agents and methods of use
US - 22.10.2009
Int.Class
A61K 49/04
Appl.No 12357950
Applicant Marval BioSciences, Inc.

Inventor Annapragada Ananth
Compositions and methods are disclosed for evaluating a subject's vasculature integrity, for differentiating between a malignant lesion and a benign lesion, for evaluating the accessibility of a tumor to nano-sized therapeutics, for treating tumors, and for live or real time monitoring of a nano-probe's biodistribution.

125.WO/2009/073236NANO-SCALE CONTRAST AGENTS AND METHODS OF USE
WO - 11.06.2009
Int.Class
A61B 6/00
Appl.No PCT/US2008/013651
Applicant MARVAL BIOSCIENCES, INC.
Inventor ANNAPRAGADA, Ananth
Compositions and methods are disclosed for evaluating a subject's vasculature integrity, for differentiating between a malignant lesion and a benign lesion, for evaluating the accessibility of a tumor to nano-sized therapeutics, for treating tumors, and for live or real time monitoring of a nano-probe's biodistribution.
126.WO/2009/073896NANO-SCALE CONTRAST AGENTS AND METHODS OF USE
WO - 11.06.2009
Int.Class
A61B 5/055
Appl.No PCT/US2009/031701
Applicant MARVAL BIOSCIENCES, INC.
Inventor ANNAPRAGADA, Ananth
Compositions and methods are disclosed for evaluating a subject's vasculature integrity, for differentiating between a malignant lesion and a benign lesion, for evaluating the accessibility of a tumor to nano-sized therapeutics, for treating tumors, and for live or real time monitoring of a nano-probe's biodistribution.
127.20080131369Compositions And Methods For Enhancing Contrast In Imaging
US - 05.06.2008
Int.Class
A61K 49/00
Appl.No 11568936
Applicant MARVEL THERAPEUTICS
Inventor Annapragada Ananth
Example compositions of liposomes with hydrophilic polymers on their surface, and containing relatively high concentrations of contrast-enhancing agents for computed tomography are provided. Example pharmaceutical compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes containing high concentrations of contrast-enhancing agents, and example methods for using the compositions.

128.20070212303Compositions and methods for enhancing contrast in imaging
US - 13.09.2007
Int.Class
A61K 49/04
Appl.No 11595808
Applicant Marval Biosciences, Inc.
Inventor Annapragada Ananth
Example compositions of liposomes with hydrophilic polymers on their surface, and containing relatively high concentrations of contrast-enhancing agents for computed tomography are provided. Example pharmaceutical compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other

tissues of the subject. Also provided are example methods for making the liposomes containing high concentrations of contrast-enhancing agents, and example methods for using the compositions.

129.6213/DELNP/2006COMPOSITIONS AND METHODS FOR ENHANCING CONTRAST IN IMAGING
IN - 31.08.2007
Int.Class
A61K 49/00
Appl.No 6213/DELNP/2006
Applicant MARVAL THERAPEUTICS
Inventor ANANTH ANNAPRAGADA
Example compositions of liposomes with hydrophilic polymers on their surface, and containing relatively high concentrations of contrast-enhancing agents for computed tomography are provided. Example pharmaceutical compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes containing high concentrations of contrast--enhancing agents, and example methods for using the compositions.
130.1742669COMPOSITIONS AND METHODS FOR ENHANCING CONTRAST IN IMAGING
EP - 17.01.2007
Int.Class
A61K 51/00
Appl.No 05711360
Applicant MARVAL BIOSCIENCES INC
Inventor ANNAPRAGADA ANANTH
Example compositions of liposomes with hydrophilic polymers on their surface, and containing relatively high concentrations of contrast-enhancing agents for computed tomography are provided. Example pharmaceutical compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes containing high concentrations of contrast--enhancing agents, and example methods for using the compositions.
131.2005239980Compositions and methods for enhancing contrast in imaging
AU - 09.11.2006
Int.Class
A61K 49/00
Appl.No 2005239980
Applicant Marval BioSciences, Inc.
Inventor Annapragada, Ananth
Example compositions of liposomes with hydrophilic polymers on their surface, and containing relatively high concentrations of contrast-enhancing agents for computed tomography are provided. Example pharmaceutical compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes containing high concentrations of contrast--enhancing agents, and example methods for using the compositions.
132.WO/2005/107820COMPOSITIONS AND METHODS FOR ENHANCING CONTRAST IN IMAGING
WO - 17.11.2005
Int.Class
A61K 9/127
Appl.No PCT/US2005/000876
Applicant MARVEL THERAPEUTICS
Inventor ANNAPRAGADA, Ananth
Example compositions of liposomes with hydrophilic polymers on their surface, and containing relatively high concentrations of contrast-enhancing agents for computed tomography are provided. Example pharmaceutical compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other

tissues of the subject. Also provided are example methods for making the liposomes containing high concentrations of contrast--enhancing agents, and example methods for using the compositions.
133.20050238584Compositions and methods for enhancing contrast in imaging
US - 27.10.2005
Int.Class
A61K 8/00
Appl.No 10830190
Applicant Marval Biosciences, Inc.
Inventor Annapragada Ananth
Example compositions of liposomes with hydrophilic polymers on their surface, and containing relatively high concentrations of contrast-enhancing agents for computed tomography are provided. Example pharmaceutical compositions of such liposomes, when administered to a subject, provide for increased contrast of extended duration, as measured by computed tomography, in the bloodstream and other tissues of the subject. Also provided are example methods for making the liposomes containing high concentrations of contrast-enhancing agents, and example methods for using the compositions.

134.4952547Catalyst for converting methane to higher hydrocarbons, including aromatic compounds
US - 28.08.1990
Int.Class
B01J 27/14
Appl.No 07223619
Applicant The Regents of the University of Michigan
Inventor Annapragada Ananth V.
A catalyst for use in a process for oxidatively coupling methane to C.sub.2 and other hydrocarbons, including aromatic hydrocarbons, which is an iron-phosphorus-oxide catalyst having an iron to phosphorus ratio of from 0.1:1.0 to 2.0:1.0 is used.