Innovation and Commercialization

UNIVERSITY OF TEXAS ARLINGTON

Nanoparticle System for targeted Lung Cancer Therapy

Tech ID: UTA 15-40

INVENTOR: Dr. Kytai Nguyen, Dr. Debabarata Saha

TECHNOLOGY NEED

According to American Cancer Society, 142670 deaths have been estimated due to lung cancer in 2019. Lung cancer is generally diagnosed in the late stage, with this disease starts spreading beyond the lungs. Patients at this stage can't undergo a surgery, so the aim of treatment is to boost survival period. Targeted therapy has potential to improve the survival rate, but drug delivery at the specified site is limited thereby leading to organ toxicity. Cancer diagnosis and treatment can be enhanced by using nano medicine. However, there is a need for developing advanced system using a combination of targeted and controlled therapy for effective treatment of lung cancer.

INVENTION DESCRIPTION/SOLUTION

Using an aerosol pulmonary drug delivery approach for targeted release of therapeutic compounds, Multifunctional dual-drug nanoparticle system (MDNPs) enhances lung cancer treatment. The synergistic effect reduces damage caused to other organs. MDNPs will be an effective approach for simultaneously delivering chemotherapy and radiation sensitization for lung cancer treatment.

APPLICATIONS

- Lung Cancer Therapy

KEY BENEFITS

- Controlled and uniform drug delivery
- Reduced damage to other organs
- Targeted release of drugs
- Multimodal system for drug delivery
- Enhanced efficacy of localized radio and chemo therapy

STAGE OF DEVELOPMENT

Component Validation/ TRL= 4

INTELLECTUAL PROPERTY STATUS

US Patent
US2017-0065523

About the Inventors:
Dr. Kytai Nguyen
Dr. Debabarata Saha

Contact information
For licensing, please contact
Jo Ramos, Ph.D.
(Licensing Associate)
j.ramos@uta.edu
innovation@uta.edu
P: 817.272.6269

Our mailing Address:
Innovation and Commercialization

701 S Nedderman drive,
Suite 350, Arlington, TX
76019

Connect with us: