Radioactive I-125 Monolayer Gold Surface Coating

Published date: May 18, 2017

Technology description

A Radioactive Monolayer Gold Surface Coating for Short Range Cancer Therapy
Tufts University investigator Charles Sykes has developed a novel way to coat gold surfaces with radioactive I-125 such that the low-energy beta particle emission is amplified by 600%. This technology is positioned to make significant improvements in short-range tumor radiation therapy.
Problem
Radiation therapy as a whole comes with a high potential to damage surrounding healthy tissue and organs. Side effects from such acute radiation can lead to severe skin irritation, among others.
Intensity-modulated radiation therapy (IMRT), while highly precise, is very expensive.
Solution
Our technology furthers the advantages of brachytherapy by improving the rate of radiation and reducing the potential to damage healthy tissue. This technical improvement should increase the effectiveness of localized cancer treatment.

Application area

Localized brachytherapy for the treatment of diseases such as cervical, prostate, breast, and skin cancer.

Advantages

This technology has the potential to be applied to the outside surface of implanted particles as opposed to being encapsulated, thus improving beta particle penetration. It can be combined with a magnetic layer to control the direction of particle emission.

Institution

Tufts University

Inventors

Alex Pronschinske
postdoc

A&S

Colin Murphy

student

A&S

Charles Sykes

professor

A&S

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com