2017-210 AUTOMATED PURIFICATION AND FORMULATION MODULE FOR PET PROBES

Published date: Sept. 11, 2019

Technology description

INTRO SENTENCE:
Sofie Biosciences and UCLA researchers from the Department of Molecular and Medical Pharmacology have developed a novel automated module that purifies and formulates radiolabeled compounds intended for medical use. This automation reduces labor cost and radiation exposure, and is widely applicable.
TITLE: Automated Purification and Formulation Module for PET Probes
BACKGROUND:
Radiopharmaceuticals such as positron emission tomography (PET) tracers are synthesized and radiolabeled compounds intended for injection into humans and animal models for diagnostics and therapeutics. These compounds require proper treatment such as purification and formulation after synthesis to ensure safety of usage. Due to high radiation exposure and specific expertise required for the treatment and packaging process, automation is the best solution that will protect workers, cut down labor cost, and improve consistency of the product. Additionally, the process needs to be contained in a lead-enclosed working space called a hot cell. Therefore, small footprint design of the automation system is key to easy integration into existing industry workflow.
INNOVATION:
A novel module that purifies and formulates the radiolabeled compounds is developed to automate the entire process and to reduce system footprint. The module takes in the crude synthesized compounds and purifies them in a user remote-controlled workflow through a fluidics system. The module then feed the purified product through a formulation workflow that dilutes and resuspend the product into desired solutions at the desired concentrations, all customized and remotely controlled by the user. The final product is placed into a separate lead box for easy access and minimal radiation exposure. This module is designed to operate in conjunction with ELIXYS radiosynthesizer, but can be easily integrated into other synthesis systems with minor modifications

Application area

- positron emission tomography (PET) tracers
- single photon emission computed tomography (SPECT) tracers

• radiotherapeutic agents
• radiolabeled compounds for non-medical applications

Advantages

• Full automation
• Great customization
• Streamlined workflow
• Can be easily integrated into other systems
• Cuts labor costs
• Improve product consistency
• Prevents workers from radiation
• Small footprint

Institution

University of California, Los Angeles

Inventors

Alexander Hsiao
Brandon Maraglia
PHARMACOL
Melissa Moore
CTO
Eric Schopf
MA&E
R. Michael Van Dam
Professor
PHARMACOL

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com