Radioligand/Theranostic to Detect Glucocorticoid Receptor Expression

Tech ID: 32899 / UC Case 2020-044-0

TECHNOLOGY DESCRIPTION

Dysregulation of glucocorticoid receptor (GR) signaling has been implicated in Cushing’s syndrome, Addison’s disease, mood disorders, glomerular diseases and cancers (e.g. prostate cancer), but non-invasive biomarkers to better understand GR biology are needed.

UCSF researchers have developed a small molecule radioligand with ~100-fold more affinity for GR vs. other nuclear hormone receptors in the same family. YJH08 has sub-nM affinity for GR and binds GR on all normal tissues, including the brain. Use of this radioligand/theranostic can help identify patients most likely to respond to GR antagonists and could help develop tissue-specific GR-targeting drugs.

\(^{\text{11}}\text{C}-\text{YJH08}\) is currently in clinical trials at UCSF to evaluate GR expression in normal tissues and treatment resistant cancer cells (NCT04927663).

ADVANTAGES

- Non-invasive biomarker for detecting GR expression in vivo
- Quantitative assessment in real time and multiple tissues simultaneously
- Selective for GR

APPLICATIONS

- Clinical trials – to identify prostate cancer patients whose cancer is driven by GR activity
- Clinical trials – for development of GR antagonists as therapeutics
- Radiotracer to measure glucocorticoid receptor expression levels in vivo with PET
REFERENCE


https://doi.org/10.1021/acschembio.9b01043

PATENT STATUS

Pending in the United States only

INVENTOR PROFILE

Michael Evans, PhD

PATENT STATUS

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