Docket #: S12-506

Novel PET imaging agents for the detection of CA6 epitope in-vivo

Stanford researchers have developed new imaging agents for the detection of the CA6 epitope in vivo in cancer patients. This PET based imaging modality will be able to detect and stratify CA6 expression in vivo and can be used for patient stratification and early therapy monitoring of CA6-targeted therapies. This invention is a companion diagnostic for CA6 targeting antibody-drug conjugate (ADC) therapy. Targeted therapies may benefit from a companion diagnostic which can help select the patient whom could benefit the most from this therapy and allow for therapy monitoring in early time points after therapy initiation.

Stage of Research:

- Conducted pre-clinical evaluation of one of the derivatives (B-Fab) at Stanford
- These studies suggest that 64Cu-DOTA-B-Fab may be a suitable companion diagnostic for SAR566658 in cancer patients and requires further investigation
Human clinical trials in ovarian cancer patients to start early 2015

Applications

- **PET based imaging modality** which enables:
  - Patient stratification for CA6 expression to enable the selection of suitable patients for clinical trials
  - Early therapy efficacy monitoring in patients receiving the SAR566658 ADC or other CA6 targeted therapies

Advantages

- Non-invasive method for CA6 evaluation in patients
- Companion diagnostic for CA6 targeting antibody-drug conjugate (ADC) therapy

- Imaging can be done as early as 6 hours post injection of the racer (in mice)

Publications

- Ilovich O et al. Development and Validation of an Immuno-PET Tracer as a Companion Diagnostic Agent for Antibody-Drug Conjugate Therapy to Target the CA6 Epitope. *Radiology* Published ahead of Print 2015.
- U.S. Patent Application Serial No. 14/173,638
- Ohad Ilovich et al. "Development and validation of an immuno-PET tracer for patient stratification and therapy monitoring of antibody-drug conjugate therapy"J Clin Oncol 31, 2013

Patents

- Published Application: WO2014124026
- Published Application: 20140255305
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