

MOLECULAR IMAGING OF COVID BINDING RECEPTOR

[Abou, Diane, Thorek, Daniel, Zhang, Hanwen](#)

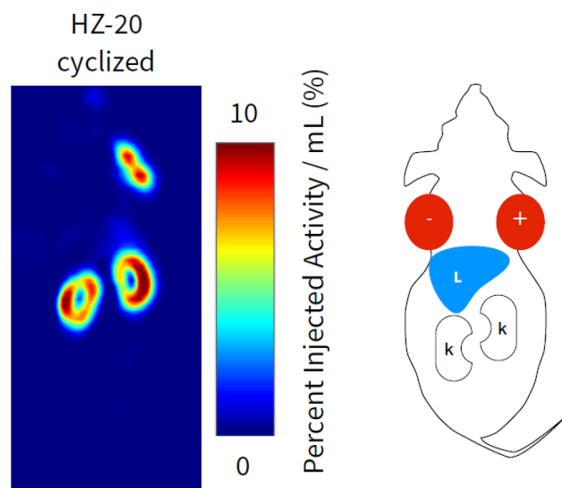
[Markiewicz, Gregory](#)

T-019485

Technology Description

A team of researchers led by Professor Daniel Thorek at Washington University have developed a peptide specific to human ACE2, the receptor for SARS-CoV-2, that can be used for imaging or therapeutic delivery. The peptide can be easily chelated for PET imaging, allowing for the stratification of patients in COVID-related clinical trials based on their tissue-specific ACE2 expression level. Lower ACE2 expression, particularly in the lungs, appears to generate less severe COVID-19 infections, making ACE2 levels an important screening marker during clinical trials for therapeutics and vaccines. The peptide could also function as a delivery system by conjugating it to a COVID-19 therapeutic.

Stage of Research



PET imaging of mice with human ACE2-expressing tumors

The inventors have demonstrated the peptide's specificity for ACE2 using PET imaging in initial proof-of-concept experiments in mice. Additionally, clinical PET imaging data demonstrated safety and efficacy to quantitate ACE2 receptor expression in men and women.

Applications

- Screening tool for COVID-related clinical trials: stratify patients based on ACE2 expression level
- Therapeutic delivery system

Key Advantages

- Rapid, non-invasive method for measuring ACE2 expression levels
- High specificity for ACE2

Patents: Pending

Related Web Links: Thorek [Profile](#); Abou [Profile](#); Zhang [Profile](#)