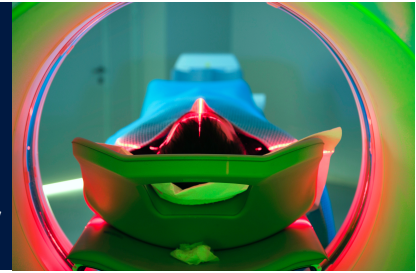


PTP μ -PET Agent

Highly Specific Imaging Agent using a Sensitive Tumor Imaging Modality



Next generation tumor imaging and targeted treatment

Positron Emission Tomography (PET) is a highly sensitive technology for detection and monitoring of therapeutic efficacy in tumors using biological molecules labeled with short-lived positron emitting isotopes. The most widely used PET tracer is ^{18}F -fluorodeoxyglucose (^{18}F -FDG), a radiolabeled glucose analog, which identifies tumors due to their increased glucose metabolism. However, some tumors utilize substrates other than glucose and will not be detected by FDG-PET. In addition, well differentiated tumors and slow growing tumors often have low glucose metabolism. Clinicians need to be able to specifically detect primary, invasive and metastatic tumors independent of their metabolic rates. PET imaging agents that specifically recognize tumor cells are necessary for improved detection as well as evaluation and monitoring

of therapeutic efficacy.

An advantage of PET imaging is that you can use low energy isotopes like ^{68}Ga or ^{18}F to image tumors. When the isotope is switched to a higher energy isotope (^{225}Ac or ^{177}Lu) the compound can be used as a therapeutic to treat the tumors. One can use a cycle of first using an imaging isotope then in a second administration use a therapeutic isotope followed by the imaging isotope again in a third administration to detect residual disease or monitor the efficacy of that radiopharmaceutical or any other treatment.

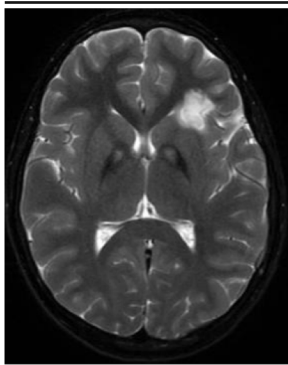
PTP μ provides a highly specific tumor biomarker that can be exploited to specifically and more comprehensively detect and monitor aggressive, invasive and metastatic cancer.

Market Potential

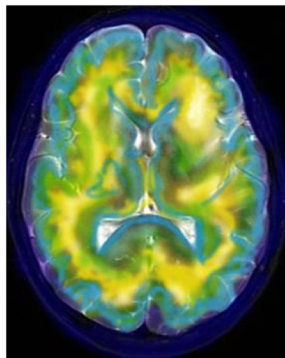
\$18 Billion

Market potential is dependent upon the range of cancers that can be addressed. Higher potential will accrue in indications with higher prevalence such as breast cancer (3,477,866), lung cancer (538,243), melanoma (1,195,608), ovarian cancer (229,875), endometrial cancer (772,245) and prostate cancer (3,110,403) totaling ~9 million cases per year. At a price of \$2000/dose, PTP μ would have a total addressable market of more than \$18 billion per year just with a single imaging scan per patient.

Non-specific Imaging



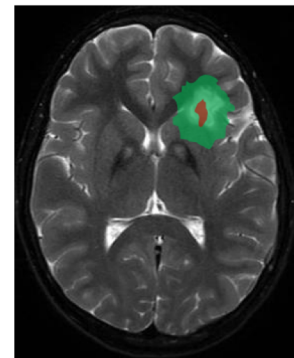
MRI



FDG PET

- Anatomical Information
- Entire tumor not seen
- Uses glucose utilization to create image
- Entire tumor not seen

Specific Imaging Agent



PTP μ (SBK2)

- ✓ SBK2 agent specifically images tumor
- ✓ All cancer cells can be visualized
- ✓ High Energy Radioactivity coupled to SBK2 can be used as targeted treatment of cancer

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Translational
Research
Partnership

