

Nanobubble Contrast Agent for Real-Time, Ultrasound-Guided Cancer Biopsy

Targeted nanobubbles as a contrast agent that will allow for more accurate screening for prostate cancer

Background & Overview

Prostate cancer affects about 2.8 million men in the United States, with over 180,000 new diagnoses, resulting in over 26,000 deaths each year. Currently, the detection of prostate cancer may involve digital rectal exams or other evaluation techniques to determine if the patient is high risk or not. If the patient is determined to be high risk, a series of 10-12 tissue samples taken from the prostate. Unfortunately, this process is not guided and many patients receive a false negative. This may mean that further biopsies are taken,

resulting in higher costs and additional risk to the patient. Currently, about 1.0 million men each year have a negative biopsy result, yet may be still at high risk for cancer. Our solution is the use of a special nanobubble that will better guide the ultrasound to find the prostate cancer cells. This is made possible by a targeting ligand that attaches itself to the receptor that is specific only to prostate cancer cells. This then makes the tumor more visible under ultrasound and allows for better guided biopsies of the tumor.

Nanobubbles used as a contrast agent in ultrasound screening for prostate cancer that will allow for fewer false negatives and more accurate diagnoses



Standard transrectal ultrasound without nanobubbles on left and with on right

Value Proposition

This technology is a one-time injection that allows a urologist to identify prostate tumor locations before biopsy. This allows samples to be taken directly from an area known to contain tumor cells. Currently, microbubbles are used for similar clinical applications, but are too large to help detect cancer tumors. By using nanobubbles, the same equipment and workflow can be used. This results in faster and more accurate detection and lower healthcare costs.

Opportunity

We seek commercialization partners with a commitment to and leadership position in global health issues. Opportunities for collaboration may take a variety of forms, including direct licensing or in conjunction with a private equity investor in a startup to develop and commercialize the technology; sponsored research.

Technology Readiness

Clinical studies planned, IND to be started soon

Commercial Pathway

Available for licensing or start-up consideration

Intellectual Property

One issued and five patent filings

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