Identification of stem cells as the cellular basis of prostate cancer provides therapeutic potential

Technology #2624

Prostate cancer is a prevalent form of cancer among men; however, the mechanisms that lead to the development of prostate cancer are not well understood hindering development of therapeutics. This technology identifies a population of luminal stem cells in prostate endothelium. The technology demonstrates the oncogenic potential of these stem cells, thus identifying them as an origin of prostate cancer. This technology further provides methods for characterizing prostate endothelial stem cells, as well as methods to diagnose the risk of developing prostate cancer.

Oncongenic luminal stem cells provides a relevant cellular model for prostate cancer research and therapeutic development.

This technology identifies a luminal stem cell with oncogenic potential that is more physiologically relevant to the human form of prostate cancer than other previously identified prostate cell types. This technology provides alternative targets for the development of therapeutics or diagnostics against prostate cancer. Identification of the oncogenic stem cells permits the development of in vitro high throughput screening techniques for research and development

This technology has been validated in mouse and rat models of prostate cancer.

Lead Inventor:

Michael M. Shen, Ph.D.

Applications:

- Diagnosis of prostate cancer and prostate cancer risk
- Potential target for the development of therapeutics for prostate cancer
- Basis of in vitro high throughput assays for drug and biomarker development
Advantages:

- Previously unidentified stem cell type in prostate endothelium
- Stem cell type is physiologically relevant to human prostate cancer
- Exhibits oncogenic properties faithful to disease phenotype

Patent information:

Patent Pending (US20110045053)

Tech Ventures Reference: IR 2624

Related Publications:


Inventors

Michael Shen