Novel therapeutic targets in the androgen receptor signaling pathway for prostate cancer

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Unmet Need

Prostate cancer is the most common malignancy in men. The most recent CDC data demonstrates that prostate cancer makes up 12.2% all new cancer cases in the U.S. at 207,430. Prostate cancers express the androgen receptor (AR) and rely on androgens for growth and survival. While 80% of patients with prostate cancer respond favorably to initial androgen ablation therapy, most patients experience a relapse of the disease within 1-2 years. There is a need for alternate and more effective therapeutic targets.

Technology

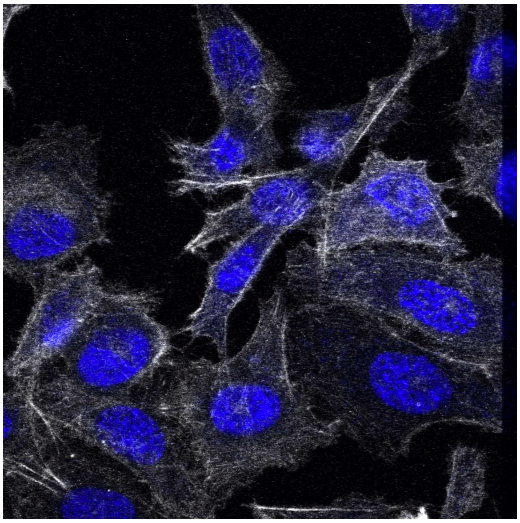
Duke inventors have reported a novel target for treating prostate cancer as well as methods of screening and identifying lead compounds. They have identified calcium/calmodulin-dependent protein kinase kinase b (CaMKK-b) as a viable therapeutic target treating prostate cancer. The inventors have demonstrated that androgen-mediated migration occurs through a CaMKK-b-AMPK-dependent pathway and pharmacological disruption of this pathway inhibits metastasis and migration of prostate cancer cells.

Other Applications

This target could be applicable to a variety of other cancers, and the inventors also provide methods to diagnose and detect cancer in a subject, as well as a method for evaluating cancer stage in a subject.

Advantages

- A first-in-class therapeutic target for prostate cancer
- IP includes compounds as well as methods for screening and identifying new ones
- Provides a method for the production of an antibody that specifically binds to the C-terminal portion of CaMKK-b
- Currently no other pharmaceutical compound in clinical trials or on the market modulating CaMKK-b



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Links

- From the lab of Dr. Donald McDonnell

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Publications

- CaM Kinase Kinase β-Mediated Activation of the Growth Regulatory Kinase AMPK is Required for Androgen-Dependent Migration of Prostate Cancer Cells (Cancer Res, 2011)
- Issued US Patent 9,999,620

Patents

Patent Number: 9,999,620

Title: CAMKK-BETA AS A TARGET FOR TREATING CANCER

Country: United States of America

Patent Number: 9,999,620

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