

Steroid Sulfatase Inhibitors For Hormone Related Cancers

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ABSTRACT

Researchers at the University of California, Davis have developed several steroid sulfatase inhibitors (STSi) that can be used as a potential treatment for hormone related cancers, specifically castration resistant prostate cancer (CRPC) and breast cancer.

FULL DESCRIPTION

Prostate cancer growth is often driven by androgens, which are male sex hormones such as testosterone. Currently, common treatment options for prostate cancer focus on lowering the levels of androgens in a man's body by surgical castration or by hormone therapy called androgen deprivation therapy (ADT). Despite advances in ADT that provide temporary relief from symptoms, patients often develop resistances to hormonal drugs and there is still no definitive cure for castration resistant prostate cancer (CRPC). High levels of cholesterol and its subsequent product dehydroepiandrosterone (DHEA) are observed in cell sublines that are resistant to ADT drugs. Emerging clinical evidence also shows DHEA concentration is highly elevated in advanced prostate cancer. DHEA synthesis is mediated by steroid sulfatase (STS), therefore inhibition of STS may be a viable strategy to treat resistant prostate cancer.

Researchers at the University of California, Davis have developed several steroid sulfatase inhibitors (STSi) that can be used as a potential treatment to prostate cancer, specifically CRPC. STSi can hinder the growth of cells that are resistant to ADT drugs such as enzalutamide and abiraterone, and thus potentially prolong the effectiveness of ADT. STSi can also potentially decrease the resistance of existing cells and re-sensitize them to ADT treatments. Results from *in vivo* testing has shown that STSi significantly inhibited VCaP tumor growth, which is a type of prostate tumor particularly is resistant to ADT treatment. Moreover, *in vitro* testing has shown that STSi also inhibits breast cancer cell growth.

APPLICATIONS

- ▶ Acts as a potential tumor inhibitor for prostate and breast cancer
- ▶ Potentially prolongs ADT efficacy by hindering existing resistant cell lines and preventing the growth of more ADT resistant cells

FEATURES/BENEFITS

- ▶ Potentially increases ADT efficacy particularly for resistant prostate cancer

PATENT STATUS

Patent Pending

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

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INVENTORS

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OTHER INFORMATION

KEYWORDS

Prostate cancer, Breast cancer, Oncology, DHEA, Dehydroepiandrosterone, ADT, Androgen deprivation therapy, Steroid sulfatase, STS, STSI

CATEGORIZED AS

- ▶ **Medical**
 - ▶ Disease: Cancer
 - ▶ Disease: Women's Health
 - ▶ Therapeutics

RELATED CASES

2018-622-0

- ▶ Novel Prostate Cancer Treatment
- ▶ AKR1C3 and Androgen Receptor-Inhibiting Compounds for Treatment of Advanced Cancers
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