A method of treating metastatic melanoma patients with selective estrogen receptor degraders/modulators (SERDs/SERMs) in combination with immunotherapy drugs

Duke LICENSING & VENTURES

Value Proposition

Metastatic melanoma is an aggressive cancer with a low 5-year survival of 25%. Recent development of immune checkpoint blockade (ICB) therapies and the use of anti-PD-1 and anti-CTLA-4 drugs have greatly improved patient outcomes. However, low response rate and duration of effect along with toxicity and adverse effects limit its clinical use. In addition, although combination ICB therapies outperform monotherapies regarding patient responses and survival, they present a significant financial burden. It is estimated that current first line combination treatment with nivolumab and ipilimumab could cost patients $300,000 per year. These problems indicate an urgent need for strategies that could facilitate ICB in treating metastatic melanoma patients.

Technology

The invention is a method of treating metastatic melanoma patients with selective estrogen receptor degraders/modulators (SERDs/SERMs) in combination with immunotherapy drugs and/or targeted therapy drugs for those with a BRAF V600E or V600K mutation. The invention is based on the finding that circulating estrogen could act on ERα to promote tumor growth through the release of immune-suppressive cytokines and suppression of CD8+ T cells. Treatment with ER antagonist ICI182780 could reverse the effects of E2 on tumor growth. Further, co-treatment with PD-1 and ER antagonist ICI182780 significantly decreased tumor growth compared with individual treatment with PD-1 or ICI182780. The inventors currently have animal data supporting the effect and feasibility of the invention.

Advantages

- Amplify treatment outcomes of current therapeutic options
- May be adapted for use with various currently approved treatment combinations covering a wide range of drugs
- May lower patient cost while maintaining similar or better treatment outcome

Duke File (IDF)

T-006996

Inventor(s)

- McDonnell, Donald
- Byemerwa, Jovita "Jovita"
- Chakraborty, Binita
- Chang, Ching-Yi

Links

- From the lab of Dr. Donald McDonnell

College

School of Medicine (SOM)

For more information please contact

Jung, Jee
919-623-6275
jee.jung@duke.edu