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SELECTIVE ESTROGEN RECEPTORS MODULATORS

Patent No. 7,687,486

Lead drug candidates shown to have activity against both triple negative and estrogen responsive breast cancer cells with little toxicity toward normal breast cells.

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Key Features:

Drug candidates are active against Triple Negative Breast cancer (TNBC) cells. These drug candidates show high potency and selective against TNBC cells.

Field:

Pharmaceutical

Technology:

Anti- triple negative breast cancer medication with low toxicity toward normal cells.

Stage of Development:

Initial pre-clinical development

Status:

Seeking further gap funding for further research & development support and/or licensing partner.

Patent Status:

Issued

Background:

Triple negative breast cancer (immunohistochemical negative for ER, PR and HER-2) is a distinct type of breast cancer which presents an enormous clinical challenge based upon the fact it occurs in younger women, less than 50 years of age and poses a high risk of distant recurrence and death usually within the first 5 years of diagnosis. Metastasis is associated with its recurrence. Metastatic progression primarily involves the visceral organs and central nervous system (CNS) and to a lower rate bone. Although triple negative breast cancer accounts for a low percentage in the overall breast cancer patient population, it has the highest mortality rate in Latina and African American women. Current treatment with chemotherapy has been limited in reducing its high mortality rate. This lack of effectiveness of chemotherapy most likely is due to the fact that triple negative breast cancer is heterogeneous disease. We are designing and synthesizing small molecules to target triple negative breast cancer.

Statement of Problem:

Limited chemotherapeutic options for triple negative breast cancer patients. The treatment options are chemotherapy, radiation, surgery or combination. Currently, there is no drug targeting triple negative breast cancer growth mechanism. All drugs on the market target estrogen responsive breast cancer like tamoxifen, raloxifene and aromasin.

Potential Solution:

FAMU has developed and patented drug candidates, which have shown significant results against triple negative and estrogen responsive breast cancer cells. We have lead drug candidates that are selective for breast cancer cells. These drug candidates kill breast cancer cells but have little effect upon normal cells. These drug candidates exhibit effectiveness against both triple negative and estrogen responsive breast cancer cells and low toxicity toward normal cells, so there is tremendous potential to develop a drug with efficacious and low toxicity or side effects.

Commercialization Status:

Our drug candidates are currently in the early stage development. The funding of this early stage development was provided by the National Institutes of Health through the Research Center in Minority Institutions (NIH-RCMI) Program. Our Future work will involve target elucidation to determine proof of concept follow by animal studies to further evaluate effectiveness and toxicity. These studies will further our development our investigational new drug application initiative. We are currently seeking collaborative partnership with commercial and public entities to carry out target elucidation and animal studies.