

Oncology

Novel Small Molecule RAC-Pathway Inhibitor for the Treatment of Cancer

Brief Description of Technology

Our proprietary inhibitor binds to VAV3 thereby inhibiting the activation of RAC downstream of several oncogenes.

TECHNOLOGY ID

2019-0402

COMPLEMENTARY TECHNOLOGY

2021-0706

BUSINESS OPPORTUNITY

Exclusive License

TECHNOLOGY TYPE

Small Molecule

PATENT INFORMATION

Nationalized

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Technology Overview

The VAV3 oncogene is a drug target for leukemia, breast, pancreatic, skin, gastric, prostate cancers and glioblastoma. We have identified the first small molecule inhibitor of VAV3, a key cellular signaling molecule and an activator of the small GTPase RAC. Our proprietary inhibitor binds tightly to Vav3, inhibits RAC activation, and induces apoptosis. This inhibitor is efficacious at low dose on patient derived xenografts of RAS-driven tumors and synergizes with TKIs. Our technology is specific to oncogene-expressing cells and not toxic to normal tissues.

Applications

- Therapeutic for tyrosine kinase inhibitor-resistant acute lymphoblastic and myeloid leukemia
- Therapeutic for triple negative breast cancer and NSCLC

Market Overview

- Acute Lymphoblastic Leukemia: About 6000 new cases/year, and 1500 deaths/year, in the US.
- Breast Cancer: over 330,000 new cases per year in the US.
- Triple Negative Breast Cancer: about 33,000 new cases per year in the US.
- Lung Cancer: Over 230,000 new cases per year in the US with 81% cases are NSCLC with mutated KRAS

Investigator Overview

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