



THE BUSINESS PARTNER  
FOR YOUR IDEAS



## TRANSLATION-TARGETED RNA INHIBITORS WITH ANTI-FLAVIVIRAL AND ANTI-CANCER PROPERTIES

### THERAPEUTICS

Small molecule therapeutic with novel mechanism of action for broad-spectrum Flaviviral treatment that also demonstrates anti-cancer activity.

#### TECHNOLOGY TYPE

Small Molecule

#### STAGE OF DEVELOPMENT

Animal model testing for viral and oncology applications are in progress.

#### LEARN MORE

Reference Numbers: U-6572,  
U-6703

#### Roberta Hunt

Technology Manager  
roberta.hunt@tvc.utah.edu  
801-587-0519

#### TECHNOLOGY SUMMARY

##### Anti-flaviviral application:

There is no FDA-approved vaccine for either Zika or dengue virus. Additionally, Dengvaxia, which is under FDA priority review, has been linked to a more severe form of dengue fever in some patients not previously infected by dengue.

A University of Utah researcher has developed a class of pan-viral small molecule inhibitors for the treatment of Flaviviruses. These molecules offer a novel mechanism of action and could potentially be active against a very broad group of RNA viruses based on in vitro testing.

##### Anti-cancer application:

The MYC oncogene is deregulated in >50% of human cancers, and MYC deregulation is central to oncogenic processes. MYC deregulation is frequently associated with poor prognosis and patient survival rates. Although MYC inhibition is recognized as a powerful approach for the treatment of many types of cancers, direct targeting of MYC has been a challenge for decades owing to its "undruggable" protein structure.

The RNA inhibitors have demonstrated anti-cancer activity in several oncology cell lines. Potent synergistic activity with mTOR inhibitors and with cisplatin has been demonstrated in cancer cell lines, suggesting that combination therapies are possible for development.

#### FEATURES AND BENEFITS

- Offers novel mechanism of action.
- Low nanomolar potency.
- Oral bioavailability.
- Broad-spectrum.

#### INVENTOR PROFILE

**Darrell Davis**, Ph.D., Professor, Chair – Medicinal Chemistry

DATE UPDATED: 7/18/2019