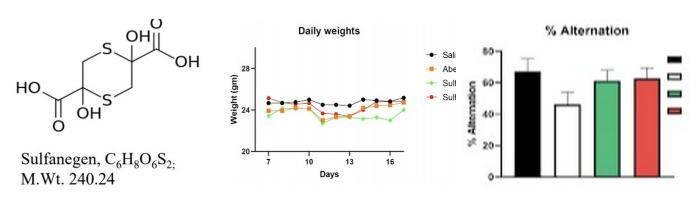
# Use of sulfanegen and its analogs for prevention and treatment for neurodegenerative disorders

A 3-mercaptopyruvate prodrug, sulfanegen, that reduces neuroinflammation and oxidative stress for therapeutic use in neurodegenerative diseases.

Technology No. 2020-331



IP Status: Provisional Patent Application Filed; Application #: 63/054,631

# **Applications**

- Alzheimer's Disease
- · Parkinson's Disease
- Huntington's Disease
- Cognitive Impairment
- Non-Alcoholic Fatty Liver Disease/Non-alcoholic steatohepatitis (NAFLD/NASH)
- Tylenol (acetaminophen) toxicity

# **Technology Overview**

Sulfanegen is a prodrug of 3-mercaptopyruvic acid. Sulfanegen was studied for potential therapeutic benefit in Alzheimer's mouse models. In mice, sulfanegen at both doses 50 and 100 mg/kg showed a marked improvement in Alzheimer's pathology and cognitive behavior pattern as determined by the T-maze spontaneous alternation.

# **Phase of Development**

### TRL: 3-4

In vitro neuroprotection studies and in vivo studies with biochemical and T-maze cognitive assessment tests have been conducted for sulfanegen. The researchers are currently evaluating the brain tissues of these mice for detailed mechanistic understanding of sulfanegen's neuroprotective action.

# **Desired Partnerships**

This technology is now available for:

- License
- Sponsored research
- Co-development

Please contact our office to share your business' needs and learn more.

## Researchers

- Robert Vince Professor and Director, Center for Drug Design
- Swati Sudhakar More Associate Professor, Center for Drug Design

# References

More SS, Beach JM, McClelland C, Mokhtarzadeh A, Vince R.(2019), https://pubs.acs.org/doi/10.1021/acschemneuro.9b00331

Patterson SE, Moeller B, Nagasawa HT, Vince R, Crankshaw DL, Briggs J, Stutelberg MW, Vinnakota CV, Logue BA(2011),

https://nyaspubs.onlinelibrary.wiley.com/doi/abs/10.1111/nyas.13114

Patterson SE, Monteil AR, Cohen JF, Crankshaw DL, Vince R, Nagasawa HT(2013), https://pubs.acs.org/doi/10.1021/jm301633x

Rao SP, Xie W, Kwon YIC, Juckel N, Xie J, Dronamraju VR, Vince R, Lee MK, More SS(2022), https://www.sciencedirect.com/science/article/pii/S2213231722002567?via%3Dihub

Swetha Pavani Rao, Wei Xie, Ye In Christopher Kwon, Nicholas Juckel, Jiashu Xie, Venkateshwara Rao Dronamraju, Robert Vince, Michael K. Lee, Swati S. More, https://doi.org/10.1016/j.redox.2022.102484, Redox Biology

https://license.umn.edu/product/use-of-sulfanegen-and-its-analogs-for-prevention-and-treatment-for-neurodegenerative-disorders