



# 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 ID**

2020-331

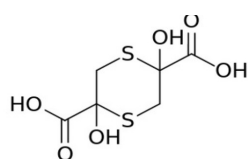
**Category**

Life Sciences/Biochemicals & Small Molecules

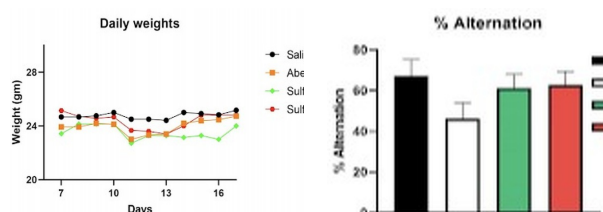
Life Sciences/Human Health

Life Sciences/Neuroscience

Life Sciences/Therapeutics



Sulfanegen, C<sub>6</sub>H<sub>8</sub>O<sub>6</sub>S<sub>2</sub>;  
M.Wt. 240.24



**IP Status:** Issued US Patent; **Issued Patent No.** 11,925,623

## 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

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## Researchers

- [Robert Vince](#) Professor and Director, Center for Drug Design
- [Swati Sudhakar More](#) Associate Professor, Center for Drug Design

## References

1. More SS, Beach JM, McClelland C, Mokhtarzadeh A, Vince R.(2019) ,  
<https://pubs.acs.org/doi/10.1021/acscchemneuro.9b00331>
2. 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>
3. Patterson SE, Monteil AR, Cohen JF, Crankshaw DL, Vince R, Nagasawa HT(2013) ,  
<https://pubs.acs.org/doi/10.1021/jm301633x>
4. 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>
5. 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