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## hHv1 Polypeptide Modulators

Tech ID: 30417 / UC Case 2019-915-0

### BRIEF DESCRIPTION

A novel class of hHv1 polypeptide modulators designed for selective modulation of hHv1 voltage gated channels, offering new avenues in medical treatment.

### SUGGESTED USES

- » Inflammatory disease treatment, including acute lung injury/ARDS, stroke, and neuropathic pain
- » Birth Control through inhibition of sperm maturation
- » Autoimmune therapies by reducing ROS in white blood cells
- » Cancer therapeutics focusing on tumor reduction

### FEATURES/BENEFITS

- » Selectively targets only hHv1 voltage gated channels
- » Capable of both inhibiting and activating modulators
- » Cell type specific response, ensuring targeted treatment
- » Monomeric peptide effectively inhibits ROS and inflammatory cytokines
- » Dimeric peptide blocks the hHv1 channel in both open and closed states with high affinity

### FULL DESCRIPTION

Developed by researchers at the University of California, Irvine, this novel class of hHv1 polypeptide modulators selectively targets hHv1 voltage gated channels, a key player in various cellular functions. Unlike existing treatments, these modulators do not affect other voltage gated channels, providing a targeted approach to treating diseases. With applications ranging from birth control to cancer therapeutics, these modulators represent a significant advancement in medical research.

### STATE OF DEVELOPMENT

Pre-clinical studies

### PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,274,130	03/15/2022	2019-915

### CONTACT

Ronnie Hanecak  
rhanecak@uci.edu  
tel: 949-824-7186.



### INVENTORS

- » Goldstein, Steven A.N.

### OTHER INFORMATION

### CATEGORIZED AS

- » **Materials & Chemicals**
  - » Biological
- » **Medical**
  - » Disease: Autoimmune and Inflammation
  - » Disease: Cancer
  - » New Chemical Entities, Drug Leads
  - » Therapeutics
- » **Veterinary**
  - » Other

## RELATED MATERIALS

» Zhao, Ruiming, et al. "Role of Human Hv1 Channels in Sperm Capacitation and White Blood Cell Respiratory Burst Established by a Designed Peptide Inhibitor." *Proceedings of the National Academy of Sciences*, vol. 115, no. 50, 2018, doi:10.1073/pnas.1816189115. - 11/26/2018

» Zhao, Ruiming et al. "Molecular Determinants of Inhibition of the Human Proton Channel hHv1 by the Designer Peptide C6 and a Bivalent Derivative." *Proceedings of the National Academy of Sciences*, vol. 119, no. 23, 2022, doi: 10.1073/pnas.2120750119.

## ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

► Albumin Activation of Human Voltage-Gated Proton Channels: Therapeutic Peptide Modulators

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5270 California Avenue / Irvine, CA  
92697-7700 / Tel: 949.824.2683



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