# SANTA CRUZ OFFICE OF RESEARCH

Industry Alliances & Technology Commercialization

Available Technologies

**Request Information** 

# Screening method for identifying compounds that treat disorders in circadian rhythms

Tech ID: 32782 / UC Case 2017-260-0

## BACKGROUND

The CRY1:CLOCK:BMAL1 sits at the core of the integrated transcription-translation feedback loop that regulates the expression of proteins that are dependent upon circadian rhythms. Disruption of circadian rhythms has been linked to altered cell homeostasis and diseases.

# **TECHNOLOGY DESCRIPTION**

The initial discovery at UC Santa Cruz was that CRY1 interacts with CLOCK via a deep binding pocket. Later it was shown by another group that linked a mutation in this binding pocket with an inherited sleep disorder. The deletion of the exon 11 domain, which contains the mutation, was confirmed experimentally at UC Santa Cruz to block the CRY1:CLOCK interaction.

The UC Santa Cruz group developed and optimized a screening method for inhibitors of the CRY1:CLOCK interaction. Such inhibitors would act as a "reset" of the transcription-translation feedback mechanism and act more directly and rapidly than other drugs that are proposed to elicit such effects.

#### **APPLICATIONS**

Screening for drugs that treat circadian rhythm disorders

#### **ADVANTAGES**

Novel, validated target for circadian rhythm disorders

#### INTELLECTUAL PROPERTY INFORMATION

Country	Туре	Number	Dated	Case
United States Of America	Published Application	20190324032	10/24/2019	2017-260

#### **RELATED MATERIALS**

Mutation of the Human Circadian Clock Gene CRY1 in Familial Delayed Sleep Phase Disorder - 04/06/2017

Formation of a repressive complex in the mammalian circadian clock is mediated by the secondary pocket of CRY1 - 01/31/2017

University of California, Santa Cruz Industry Alliances & Technology Commercialization Kerr 413 / IATC,

Santa Cruz,CA 95064

Tel: 831.459.5415 innovation@ucsc.edu https://officeofresearch.ucsc.edu/ Fax: 831.459.1658 © 2022, The Regents of the University of California Terms of use Privacy Notice

CONTACT Jeff M. Jackson jjackso6@ucsc.edu tel: .

UC TechAlerts New technology matches delivered to your email at your preferred schedule SEARCH > & SAVE SEARCH Learn More

# INVENTORS

Partch, Carrie L.

### **OTHER INFORMATION**

KEYWORDS

Circadian Rhythms, Sleep Disorders,

Compound Screening, Novel Drug

Targets

#### **CATEGORIZED AS**

Medical
Disease: Genetic

Diseases and Dysmorphic

- Syndromes
- Disease:

Metabolic/Endocrinology

Screening

**RELATED CASES** 2017-260-0



Permalink

**Contact Us**