



New Class Of Taste Receptor In Mammals

Tech ID: 32332 / UC Case 2021-874-0

BACKGROUND

Mammals are believed to have five basic taste receptors: sweet (T1R2 + T1R3), bitter (T2Rs), sour, salty, and umami (T1R1 + T1R3) that are identified by Class A and Class C G protein-coupled receptors (GPCRs). GPCRs are membrane proteins that transduce extracellular signals to intracellular responses. Among their many roles, certain GPCRs are central to the perception of light, taste, and olfaction. Gustatory perception of complex chemical signals is also achieved by the expression of multiple types of GPCR taste receptors. A large suite of in vitro tools for measuring chemosensory properties of chemical entities is being developed, wherein GPCR taste-sensitive proteins are used to identify and evaluate the gustatory taste attributes of tastant ligands. This field continues to expand, and there is an ongoing opportunity for discovery in the way of mammalian taste receptors.

DESCRIPTION

Researchers at the University of California, Santa Barbara, have discovered a new class of taste receptor in mice and humans. These taste receptors are activated by variety of chemicals found in foods such as cocoa beans, citrus fruits, green tea, soybeans, artificial sweeteners, etc. One of the advantages of identifying mammalian taste receptors is that they can be expressed in vitro and used to conduct high throughput screens for new classes of modulators to reduce the bitterness of aversive chemicals in food and for artificial sweeteners and other chemicals in foods. This invention has a direct impact on testing and tuning flavors in food additives, orally administered drug or dietary supplements, oral care compositions, and more.

ADVANTAGES

- ▶ Enables activation and modulation of previously undiscovered taste receptors

APPLICATIONS

- ▶ Food flavoring
- ▶ Modulators to reduce adverse taste of orally-administered drugs
- ▶ Modulators to reduce adverse taste of dietary supplements
- ▶ Modulators to reduce adverse taste of oral care products

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20240142474	05/02/2024	2021-874

CONTACT

Donna M. Cyr
cyr@tia.ucsb.edu
tel: .

INVENTORS

- ▶ Chandel, Avinash
- ▶ Montell, Craig
- ▶ Zhan, Yinpeng

OTHER INFORMATION

KEYWORDS

taste receptor, flavor, food

additives, taste buds, orally-

administered drug, oral care

product, dietary supplements,

artificial sweeteners

CATEGORIZED AS

- ▶ **Biotechnology**
- ▶ Food

RELATED CASES

2021-874-0