G2A GPCR Deficient Mouse Model and G2A Monoclonal Antibody

Tech ID: 20100 / UC Case 1997-538-0

BACKGROUND

G2A, initially an orphan GPCR, was identified in a search for downstream transcriptional targets of the oncogene BCR-ABL tyrosine kinase. G2A belongs to a family of sequence related GPCRs that were initially thought to bind to proinflammatory lipids. However it was recently discovered that G2A and its related GPCRs act as proton sensors that increase the acid-induced production of secondary messengers such as inositol phosphates and cyclic AMP.G2A is expressed mainly in immune cells including T and B-lymphocytes, monocytes, macrophages and dendritic cells. Currently, G2A and its related GPCRs are implicated in a variety of diseases including autoimmune disorders, inflammation and cancer. However the exact biological functions of these GPCRs have not been elucidated. Therefore, readily available research tools such as those generated by the UCLA investigators could significantly accelerate the research to better understand the role of these GPCRs under physiological and pathological conditions.

INNOVATION

Researchers at UCLA identified, characterized and patented the G2A GPCR. To help in the elucidation of the biological functions of G2A, these researchers have also developed a G2A GPCR deficient mouse model along with polyclonal and monoclonal antibodies useful for immunoprecipitations and Western blots. These tools may be used to study G2A to better understand its function in a variety of disorders and to also develop therapeutics that target this GPCR.

ADVANTAGES

- Novel GPCR may be targeted to develop therapies that treat a variety of disorders
- Readily available G2A deficient mouse model that can be used to study G2A and used as a screen for novel therapies that involve G2A dysfunction
- Readily available G2A antibodies may be used for immunoprecipitations and Western blots to screen for G2A expression
- G2A may be used as a diagnostic

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	6,569,995	05/27/2003	1997-538

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Nucleic Acid Tetramers For High Efficiency Multiplexed Cell Sorting
- Mouse Model Deficient for the Proton Sensing Gpcr T-cell Death-associated Gene 8 (tdag)
- Anti-Human Deoxycytidine Kinase (dCK) Monoclonal Antibody
- Novel Non-Immunogenic Positron Emission Tomography Gene Reporter
- Targeted Mass Spectrometry Approaches To Detect Kinase Pathways For Personalized Medicine
- Proton-sensing G Protein-coupled Receptor 4 Knockout
- Derivation Of A Human Neuroendocrine Prostate Cancer Cell Line With Defined Oncogenic Drivers
- Novel Polyclonal Antibody to Detect a Bruton's Tyrosine Kinase Phosphorylation Site
- Non-Immunogenic Positron Emission Tomography Gene Reporter Systems

CONTACT

UCLA Technology Development Group
ncd@tdg.ucla.edu
tel: 310.794.0558.

INVENTORS

- Witte, Owen N.

OTHER INFORMATION

KEYWORDS

mouse model, antibody, polyclonal, monoclonal, G-protein coupled receptor, GPCR

CATEGORIZED AS

- **Research Tools**
  - Animal Models
  - Antibodies
  - Reagents

RELATED CASES

1997-538-0

UCLA Technology Development Group

10889 Wilshire Blvd., Suite 920,Los Angeles,CA 90095

tdg.ucla.edu

Tel: 310.794.0558 | Fax: 310.794.0638 | ncd@tdg.ucla.edu