Inhibitors for the Treatment of T Cell-Mediated Autoimmune Disorders

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ABSTRACT

Method of using Dantrolene, a FDA-approved drug, currently used for treatment of muscular skeletal dysfunction, to treat T-lymphocyte mediated disorders (autoimmune diseases and chronic graft versus host disease) in humans and animals.

FULL DESCRIPTION

T lymphocytes (T cells) play a critical role in regulation of immune system function. They control cell-mediated immunity, provide defense against infectious microbes, recognize and eliminate foreign substances, and act as surveillance for cancer cells. T cells, however, are also the primary causes of inflammatory responses in patients with autoimmune disorders and graft rejection in organ transplant patients.

Researchers at the University of California, Davis have discovered that Dantrolene, a FDA approved drug currently used for the treatment of muscular skeletal dysfunctions, significantly suppresses CD4+ T cell functions such as proliferation and cytokine production. By targeting T cells, Dantrolene can effectively reduce inflammation-induced tissue damage. Furthermore, this drug can effectively reduce graft rejection.

APPLICATIONS

- Therapeutic immunosuppressant in humans and animals
- Treat a broad range of T-cell mediated autoimmune disorders and chronic-graft-versus host disease including:
  - multiple sclerosis, rheumatoid arthritis, type-1 diabetes, psoriasis, and chronic graft-versus-host disease in humans and animals

FEATURES/BENEFITS

- This drug may be more effective in treating T-cell mediated diseases than other currently marketed immunosuppressants
- This drug can be administered orally, subcutaneously, intramuscularly, or intravenously, alone, or in combination with other drugs
- Can be used as an alternative treatment in patients who cannot tolerate the severe side effects of currently marketed immunosuppressive drugs
- Can be used to treat autoimmune diseases or graft-versus-host disease in patients who underwent immunosuppressive drug treatments that did not produce desirable effects

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,301,947	04/05/2016	2009-313

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OTHER INFORMATION

KEYWORDS

immunosuppressant, autoimmune disease, chronic graft-versus-host disease

CATEGORIZED AS

- **Biotechnology**
  - Health
- **Medical**
  - New Chemical Entities, Drug Leads
  - Therapeutics

RELATED CASES

2009-313-0

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