Fusion Protein for Treatment of Inflammatory Diseases

Tech ID: 31812 / UC Case 2016-656-0

ABSTRACT

Researchers at the University of California, Davis have developed a plant-based, fusion protein for use in the treatment of inflammatory diseases.

FULL DESCRIPTION

Inflammatory diseases - such as alpha-1 anti-trypsin deficiency (AATD) and cystic fibrosis (CF) – are currently treated using plasma-derived, IV replacement therapies. Although such therapies are safe and effective, they have limitations due to cost, purity specifications, and limited availability. There is a need for a treatment that avoids the complexity and cost of collection, purification, sterilization, preservation and distribution of plasma.

Researchers at the University of California, Davis have developed a plant-based, elafin-fusion protein that can be used as a potential therapeutic to treat patients with inflammatory diseases. This therapeutic provides a cost-effective and stable treatment option for patients who either lack access to plasma-derived, IV replacement therapies or are seeking a lower cost, alternative therapy. The protein is resistant to proteolytic cleavage and oxidation, and has anti-inflammatory properties. Additionally, the therapeutic exhibits human-like glycosylation, has a longer half-life than other treatments and can be delivered via infusion or inhalation.

APPLICATIONS

- Protein therapy for inflammatory diseases such as AATD and CF
- Can be delivered via either infusion or inhalation

FEATURES/BENEFITS

- Proteolytic cleavage-resistant
- Oxidation-resistant
- Improved stability
- Lower manufacturing and clinical costs compared to current treatment options
- Extended serum half-life
- Anti-inflammatory properties
- Delivery by infusion or inhalation

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,918,703	02/16/2021	2016-656

RELATED MATERIALS

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OTHER INFORMATION

KEYWORDS

Elafin, Fusion proteins, Anti-protease augmentation, Inflammatory disease, Inflammatory lung disease, Inflammatory pulmonary disease, Alpha-1 antitrypsin deficiency, AATD, Cystic fibrosis, Chronic obstructive pulmonary disease, COPD, Plasma-derived IV rep

CATEGORIZED AS

- **Agriculture & Animal Science**
  - Other
- **Medical**
  - Disease: Autoimmune and Inflammation
  - Therapeutics

RELATED CASES

2016-656-0

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