

Plant-based production of Protein Therapeutics, with Constructs, Method and System for Animal Delivery

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Technology description

Invention provides a method for creating protein therapeutics for treating (primarily) ulceration (throughout the body caused by a variety of diseases) by implementing an Endogenous Grown Human Growth Factor delivery system which is developed by genetic splicing of genes (conducive to produce growth factor proteins) into soybeans while simultaneously using a similar technique to repress plant genes that induce inflammatory, allergenic, or mutagenic responses within humans and animals.

Background:

Protein therapeutics have emerged as increasingly vital therapy for a wide range of conditions in animals and humans. For example: diabetic foot ulceration results in both acute and chronic wounds that are difficult to heal without growth factor administration often resulting in amputation of the foot or limb. Similarly, in children, necrotizing enterocolitis often leads to malabsorption, resulting in ultimate death without growth factor administration. While growth factors have increasingly been brought forward as biologic therapeutics, their production, processing, and means of target delivery to patient remains complex, expensive, and cumbersome.

Application area

- Treatment for internal and external wounds.
- Usage as active probe for feedback of wound status.
- Synergistic medications which may be anti-inflammatory, anti-infectious, or anesthetic for pain reduction.

Advantages

- Increased yield
- Increased efficacy
- Prevents protein denaturation
- Increased safety
- Avoids storage and stability related issues.

Institution

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