Legionaminic Acid Glycosyltransferases for Chemoenzymatic Synthesis of Glycans and Glycoconjugates

Tech ID: 33435 / UC Case 2022-592-0

ABSTRACT

Researchers at the University of California, Davis have developed a method for preparing a glycan product containing a nonulosonic acid moiety by means of legionaminic acid transferase fusion proteins

FULL DESCRIPTION

Researchers at the University of California Davis have developed a technology that revolves around the method of preparing a glycan product with a nonulosonic acid moiety. It involves the creation of a reaction mixture including a legionaminic acid transferase (LegT), a donor comprising a nonulosonic acid moiety, and a glycan acceptor. This process is performed under conditions for LegT-catalyzed transfer of the nonulosonic acid moiety from the donor to the glycan acceptor to create the glycan product.

APPLICATIONS

- Pharmaceutical Industry
- Biotechnology
- Chemical Engineering

FEATURES/BENEFITS

- Pharmaceutical Industry: Production of effective vaccines and drugs.
- Biotechnology: Advancements in glycan research.
- Chemical Engineering: Enhancement of existing chemical synthesis processes.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20250197905	06/19/2025	2022-592

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OTHER INFORMATION

KEYWORDS

biocatalysis, bacterial carbohydrate, polysaccharide, chemoenzymatic synthesis, glycosyltransferase, legionaminic acid, nonulosonic acid

CATEGORIZED AS

- **Biotechnology**
  - Health
  - Other
- **Materials & Chemicals**
  - Chemicals
  - Other

RELATED CASES

2022-592-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Purification of Glycosphingosines and Glycosphingolipids
- A Photobacterium Sp. Alpha2-6-Sialytransferase 9Psp2.6St) A366g Mutant With Increased Expression Level And Improved Activity In Sialylating Tn Antigen
- Synthesis of Capsular Polysaccharides
- Using Escherichia coli to Produce Human Milk Oligosaccharide Lactodifucotetraose
- 4-N-Derivatized Sialic Acids and Related Sialosides

- Substrate And Process Engineering For Biocatalytic Synthesis And Facile Purification Of Human Milk Oligosaccharides (HMOs)
- O-Acetyl Glycosphingosines and Gangliosides, as well as Their N-Acetyl Analogs
- Stable N-acetylated analogs of Sialic Acids and Sialosides
- Alpha2-6-Linkage-Specific Sialidase Mutants
- Alpha1–2-Fucosyltransferase for Enzymatic Synthesis of Alpha1–2-linked Fucosylated Glycans
- Engineering Pasteurella Multocida Heparosan Synthase 2 (Pmhs2) For Efficient Synthesis Of Heparosan Heparin And Heparan Sulfate Oligosaccharides
- One-Pot Multienzyme Synthesis of Sialidase Reagents, Probes and Inhibitors
- Lacto-N-tetraose Biosynthesis from Lactose via Metabolically Rewired Escherichia Coli
- Novel Methods For Chemical Synthesis Of Lactosyl Sphingosines, Glucosylsphingosines, Galactosylsphingosines, And 3-O-Sulfogalactosylsphingosines

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