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# 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
Patent Cooperation Treaty	Reference for National Filings	<a href="#">WO 2023/183781</a>	09/28/2023	2022-592

Patent Pending

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## INVENTORS

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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-Sialyltransferase 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 Lactodifucoetraose
- ▶ 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
- ▶ 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
- ▶ Novel Methods For Chemical Synthesis Of Lactosyl Sphingosines, Glucosylsphingosines, Galactosylsphingosines, And 3-O-Sulfogalactosylsphingosines

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