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

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Patent Pending

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-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
Alpha1–2-Fucosyltransferase for Enzymatic Synthesis of Alpha1–2-linked Fucosylated Glycans
One-Pot Multienzyme Synthesis of Sialidase Reagents, Probes and Inhibitors
Novel Methods For Chemical Synthesis Of Lactosyl Sphingosines, Glucosylsphingosines, Galactosylsphingosines, And 3-O-Sulfogalactosylsphingosines