

Synthetic biology



Recent patents relating to methods, systems and toolkits related to synthetic biology.

Patent number	Description	Assignee	Inventor	Date
WO2023000243A1	A method for producing glucose and derivatives thereof by means of biotransformation with a recombinant yeast, comprising knocking out metabolic pathway-related enzymes for glucose and derivatives thereof in a yeast strain; enhancing or using an activity of synthetic pathway-related enzymes of glucose and derivatives thereof in the yeast strain; and enhancing or using a capability of glucose and derivatives thereof in the yeast strain to enter and exit the yeast.	Shenzhen Institutes of Advanced Technology (Shenzhen, China)	Yu T, Wu L, Tang, Guo S	1/26/2023
WO2023285650A1	A cell and a method for production of a compound. The cell expresses an α -1,2-fucosyltransferase that has galactoside α -1,2-fucosyltransferase activity on the galactose residue of Gal- β 1,3-GlcNAc lacto- <i>N</i> -biose).	Inbiose (Ghent, Belgium)	Aesaert S, Beauprez J, Peters G, Vandewalle K, Vercauteren A	1/19/2023
WO202227219A3	A synthetic biology toolkit that enables precise and effective control of gene expression in <i>Agrobacterium tumefaciens</i> and related Rhizobia. Inducible expression systems were constructed, characterized, and optimized to obtain an expression system regulated through amplifier introduction and promoter engineering, and cognate promoters were produced and evaluated.	University of Illinois (Champaign, IL, USA)	Lu T, Qian Y, Kong W	12/19/2022
US2022380738A1	Compositions, methods, systems and kits for programmable endonucleolytic cleavage of DNA (for example, double-stranded DNA) and PRC-free assembly of linear DNA molecules by using CbAgo/RecBexo-C programmable DNA endonuclease. The combination of CbAgo and RecBexo-C is an efficient mesophilic DNA-guided DNA-cleaving programmable endonuclease that can be used to prepare synthetic biology tools that require or benefit from sequence-specific nicking or cleavage of natural DNA at otherwise inaccessible locations.	New England Biolabs (Ipswich, MA, USA)	Bitinaite J, Vaiskunaite R, Potapov V, Tanner N	12/1/2022
CN115386593A	A synthetic biology self-assembly-based new coronavirus vaccine generation system and method, comprising a base sequence component capable of expressing a new coronavirus antigen and capable of enriching in a tissue organ in a host, expressing the antigen on the surface of a vesicle and self-assembling into a vesicle complex that is capable of eliciting an immune response.	Nanjing University (Nanjing, China)	Zhang C, Zhan S, Chen Xi, Zhou S	11/25/2022
WO2022219186A2	A cell pathway for the production of the compound, comprising a disaccharide, oligosaccharide and/or a Neu _n Ac-containing bioproduct, wherein <i>n</i> is 4, 5, 7, 8 or 9 or a combination thereof. The cell is metabolically engineered for enhanced synthesis of acetyl-coenzyme A. Also, a method of producing such compound by cultivation, preferably a fermentation, with such a cell.	Inbiose (Ghent, Belgium)	Beauprez J, Coussement P, Decoene T	10/20/2022
CN217398846U	A genetically engineered bacterium for producing 3-hydracrylic acid as well as a construction method and application of the genetically engineered bacterium. Intracellular coenzyme self-sufficiency is completed under aerobic conditions without vitamin B12, and effective production of 3-hydracrylic acid is achieved.	Jiangsu University (Zhenjiang, China)	Qi X, Dou Y, Zhang Y, Zhao MEI, Zhai B, Yuva SL	9/2/2022

Source: United States Patent and Trademark Office (<http://www.uspto.gov>), Espacenet.

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