PRODUCTION OF SIALYLATED N-GLYCANS IN LOWER EUKARYOTES

ABSTRACT

The present invention relates to eukaryotic host cells which have been modified to produce sialylated glycoproteins by the heterologous expression of a set of glycosyltransferases, including sialyltransferase and/or trans-sialidase, to become host-strains for the production of mammalian, e.g., human therapeutic glycoproteins. Novel eukaryotic host cells expressing a CMP-sialic acid biosynthetic pathway for the production of sialylated glycoproteins are also provided. The invention provides nucleic acid molecules and combinatorial libraries which can be used to successfully target and express mammalian enzymatic activities (such as those involved in sialylation) to intracellular compartments in a eukaryotic host cell. The process provides an engineered host cell which can be used to express and target any desirable gene(s) involved in glycosylation.

(No suitable figure)