(54) Title: BACTERIA ENGINEERED TO TREAT NONALCOHOLIC STEATOHEPATITIS (NASH)

(57) Abstract: The present disclosure provides engineered bacterial cells comprising a heterologous gene encoding a propionate biosynthesis gene cassette; a butyrate biosynthesis gene cassette; GLP-1; a propionate biosynthesis gene cassette and a butyrate biosynthesis gene cassette; a propionate biosynthesis gene cassette and GLP-1; a butyrate biosynthesis gene cassette and GLP-1; or a propionate biosynthesis gene cassette, a butyrate biosynthesis gene cassette, and GLP-1. In another aspect, the engineered bacterial cells further comprise a bacterial kill switch. The disclosure further provides pharmaceutical compositions comprising the engineered bacteria, and methods for treating liver disease, such as nonalcoholic steatohepatitis (NASH), using the pharmaceutical compositions of the disclosure.
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