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(54) Title: BACTERIA WITH REDUCED GENOME

(57) Abstract: The present invention provides a bacterium having a genome that is genetically engineered to be at least 2 to about 20% smaller than the genome of its native parent strain. A bacterium with a smaller genome can produce a commercial product more efficiently. The present invention also provides methods for deleting genes and other DNA sequences from a bacterial genome. The methods provide precise deletions and seldom introduces mutations to the genomic DNA sequences around the deletion sites. Thus, the methods can be used to generate a series of deletions in a bacterium without increasing the possibility of undesired homologous recombination within the genome. In addition, some of the methods provided by the present invention can also be used for replacing a region of a bacterial genome with a desired DNA sequence.

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