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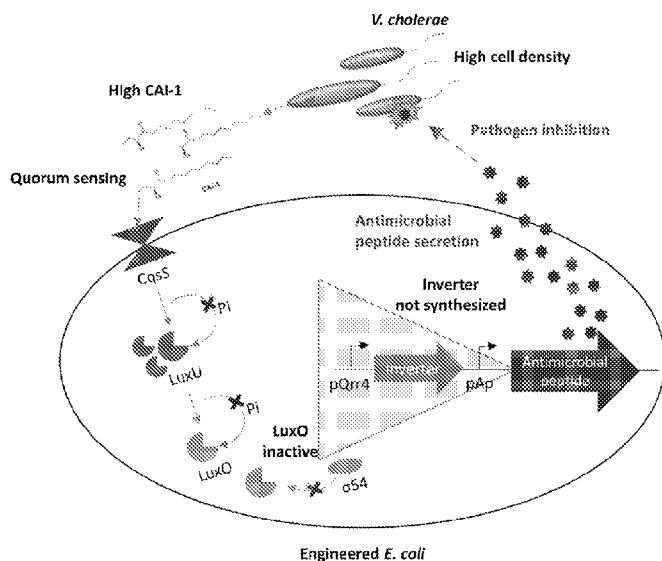
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(54) Title: A RECOMBINANT EXPRESSION SYSTEM THAT SENSES PATHOGENIC MICROORGANISMS

Figure 1B



(57) Abstract: The present invention relates to a recombinant expression system comprising at least: (i) a first nucleotide sequence encoding for at least one protein of a quorum sensing system capable of detecting the presence, amount or both of a microorganism of interest by forming a complex with a marker molecule indicating the presence of said microorganism; (ii) a second nucleotide sequence encoding for at least one antimicrobial peptide, wherein the at least one antimicrobial peptide is effective against the microorganism of interest detected by the at least one protein encoded by the first nucleotide sequence, (iii) a third nucleotide sequence encoding for a genetic inverter that inhibits expression of the second nucleotide sequence, wherein the genetic inverter is under control of an inducible promoter and wherein the inducible promoter is induced if the complex of the at least one protein encoded by the first nucleotide sequence and the marker molecule indicating the presence of said microorganism is below a threshold concentration and is not induced if the complex of the at least one protein encoded by the first nucleotide sequence and the marker molecule indicating the presence of said microorganism exceeds a threshold concentration. Further encompassed is the use of the expression system and cells comprising the expression system of the in-

vention.



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