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(54) **ACID-INDUCIBLE PROMOTERS FOR GENE EXPRESSION**

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**Related U.S. Application Data**

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(57) **ABSTRACT**

An isolated polynucleotide encoding an acid-inducible, or acid-responsive, promoter element includes the $F_1F_0$-ATPase promoter of *Lactobacillus acidophilus* DNA that hybridizes thereto and encodes an acid-inducible promoter. Recombinant molecules comprising the promoter operatively associated with a DNA of interest, along with vectors and host cells containing the same, are also disclosed. Methods of upregulating the transcription of a DNA of interest in a host cell with such promoters are also disclosed.

**22 Claims, 7 Drawing Sheets**