IX, published by Oxford University Press, 2007 (ISBN 0763740632); Krebs, et al. (eds.), The Encyclopedia of Molecular Biology, published by Blackwell Science Ltd., 1994 (ISBN 0-632-02182-9); and Robert A. Meyers (ed.), Molecular Biology and Biotechnology: a Comprehensive Desk Reference, published by VCH Publishers, Inc., 1995 (ISBN 1-56081-569-8).

The invention now being generally described will be more readily understood by reference to the following examples, which are included merely for the purposes of illustration of certain aspects of the embodiments of the present invention. The examples are not intended to limit the invention, as one of skill in the art would recognize from the above teachings and the following examples that other techniques and methods can satisfy the claims and can be employed without departing from the scope of the claimed invention. Indeed, while this invention has been particularly shown and described with references to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the scope of the invention encompassed by the appended claims.

EXAMPLES

Example 1: Preventing EMS with enteric bacteria disrupting quorum sensing construct design.

To degrade AI-1, the present inventors over-expressed the lactonase, *AidH*, from *Ochrobactrum* (SEQ ID NO. 1). Unlike *B. cereus* AiiA lactonase, the catalytic activity of *AidH* does not require zinc which may be in present only in limited quantities in sea water and/or artificial aquaculture environments. The present inventors placed the *aidH* gene under the control of strong Pupp promoter that is operably in both gram positive and gram-negative bacteria. A Pupp-*aidH* expression cassette ~~as set forth in SEQ ID. NO.: 1~~ was cloned both in the pAD43 shuttle vector and in pACYC184. To absorb AI-2 from environment the present inventors cloned and overexpressed *E. coli* lsr operon. In attempt to decrease concentration of AI-1 and AI-2 signal molecules, the present inventors further co-express AI-1 and AI-2 quenching constructs using compatible plasmid constructs. Plasmid design is described in Materials and Methods. All plasmids were transformed into enteric natural isolate *Enterobacter* sp.