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(54) Title: TOXIN-ANTITOXIN SYSTEM AND APPLICATIONS THEREOF

Pf4: 1 MRVETISYLKRHAADLDLSEPMVVTONGVPAYVVESYAERKQDEATAIVKLLAIGSRQY 60

MRVETISYLKR+AADL L EP+VVTONGVPAYVVESYA+RK+RDE+IALVKLLAI SR+Y

Phd: 1 MRVETISYLKRNAADLPDLEPLIVTONGVPAYVVESYADRKRDESIALVKLLAITSREY 60

Pf4: 61 AEGKHRSVDDLKARLSRRFAQPE 83

+GKH S D+LKARLSRRFA E

Phd: 61 SQGKHCSADELKARLSRRFAHKE 83

(57) Abstract: The present invention relates to the discovery of a toxin-antitoxin system in opportunistic human pathogen *Pseudomonas aeruginosa* and to the applications of this discovery including the stabilization of plasmids useful in the field of recombinant DNA technology for production of genes and their products. The Phd-like (prevent host death) antitoxin protein and ParE-like toxin protein of the invention are shown in Figures 1, 2 and 15.



WO 2006/052224 A1