

## Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: List of *E. lenta* DSM 2243 10–12 transmembrane helix LuxRs

File Name: Supplementary Data 2

Description: MUSCLE alignment of *E. lenta* 10–12 transmembrane helix LuxRs.

File Name: Supplementary Data 3

Description: List of Coriobacteriia 10–12 transmembrane helix LuxRs.

File Name: Supplementary Data 4

Description: List of proteins containing N-terminal 10–12 transmembrane domain and C-terminal LuxR-type helix-turn-helix DNA-binding domain (PF00196) obtained from UniProt.

File Name: Supplementary Data 5

Description: Oligonucleotide sequences used in the study.

File Name: Supplementary Data 6

Description: Nucleotide sequences of genetic parts used in the study.