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**Figure S1** Schematic diagram for the construction of recombinant plasmid and bacillus subtilis spores expressing CsSerpin3. The recombinant plasmid (pEB03-CotC-CsSperin3) were constructed by connecting the Serpin3 gene segment of *Clonorchis sinensis* (CsSperin3) into pEB03-CotC plasmid. The pEB03-CotC-CsSperin3 plasmid was transfected into *Bacillus subtilis* WB600 strain and the strain were induced for spore formation.