

SUPPORTING INFORMATION

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New-Generation Antibacterial Agent—Cellulose-Binding Thermostable TP84_Endolysin

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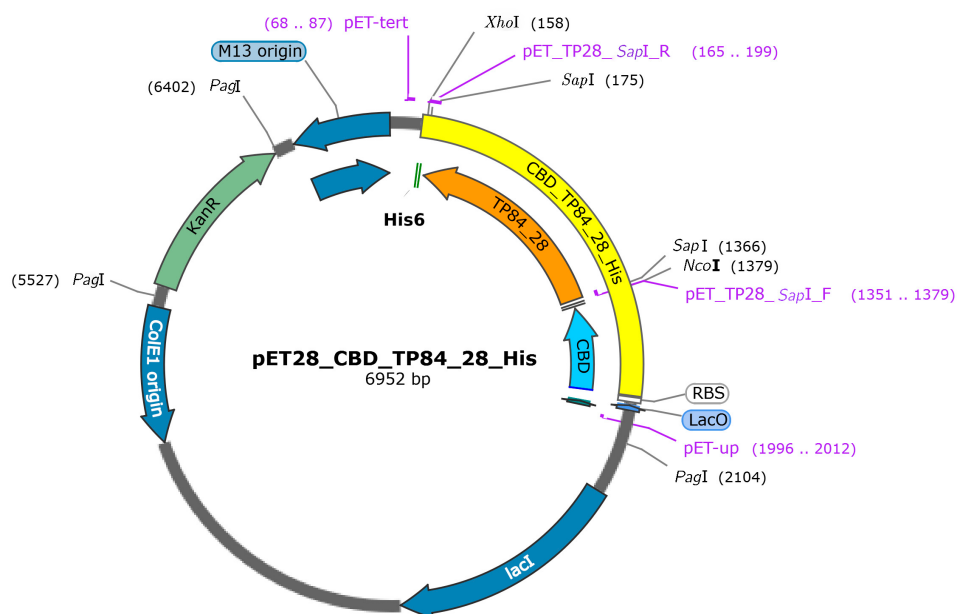


Figure S1. Plasmid pET28_CBD_TP84_28_His. TP84_28 – gene coding for the endolysin TP84_28; CBD – gene coding for cellulose binding domain; CBD_TP84_28 – fusion gene which was formed after cloning TP84_28 into the plasmid pET28_CBD_His; LacO – operator LacO; RBS – ribosome binding domain; pET-up, pET-tert – attachment sites for pET_up and pET_tert primers correspondingly; pET_TP28_SapI_R, pET_TP28_SapI_F – attachment sites for pET_TP28_SapI_R and pET_TP28_SapI_F primers correspondingly; PagI, XhoI, SapI, NcoI – restriction site for XhoI, SapI, NcoI; KanR – gene coding for kanamycin resistance; ColE1 origin – origin of replication, lacI – lac repressor-coding gene, M13 origin – replication origin for ssDNA M13 bacteriophage, His6 – sequence encoding histidine tag.

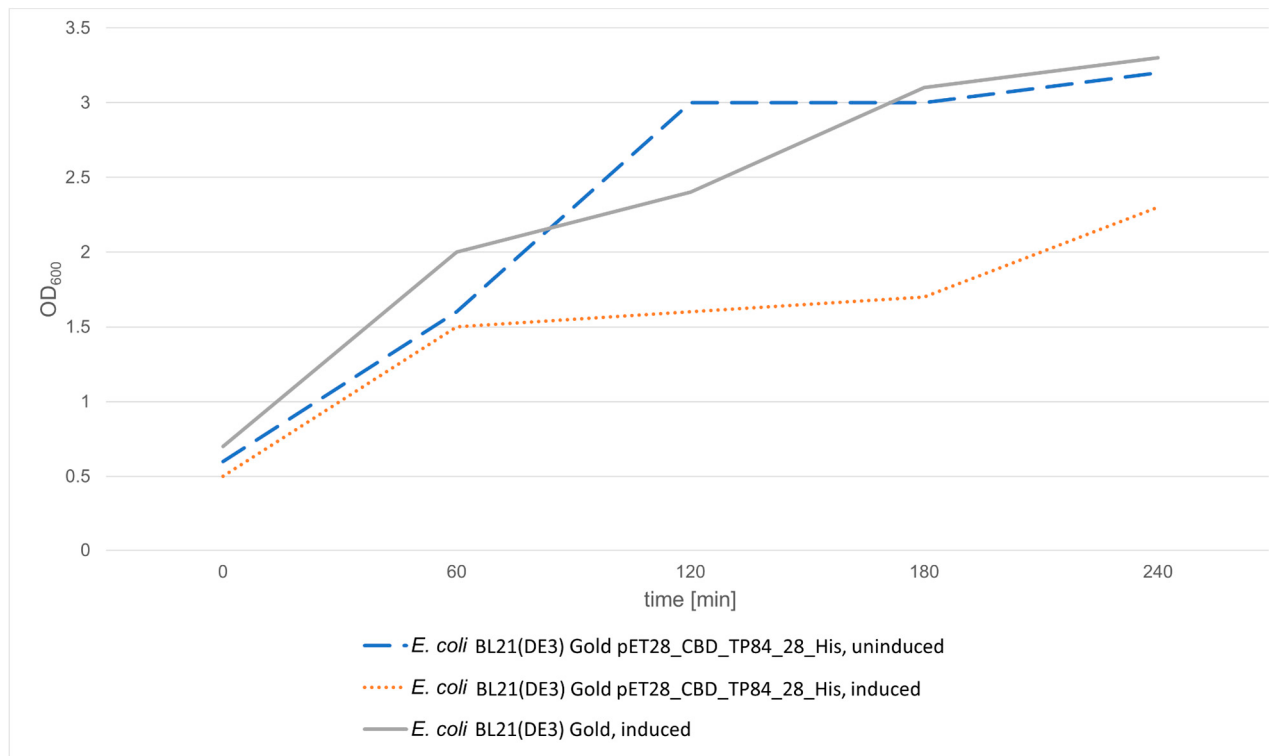


Figure S2. Growth curve of *E. coli* BL21(DE3) Gold with recombinant plasmid pET28delSapI_CBD_TP84_28_His after induction of fusion gene *cbd_tp84_28* expression and controls
E. coli BL21(DE3) Gold pETdelSapI_CBD_TP84_His, uninduced - expression strain *E. coli* BL21(DE3) with recombinant plasmid pET28delSapI_TP84_28_His not induced with IPTG ; *E. coli* BL21(DE3) Gold pETdelSapI_CBD_TP84_28_His, induced - expression strain *E. coli* BL21(DE3) with recombinant plasmid pET28delSapI_TP84_28_His induced with IPTG; *E. coli* BL21(DE3) Gold, induced - expression strain *E. coli* BL21(DE3) without recombinant plasmid induced with IPTG.

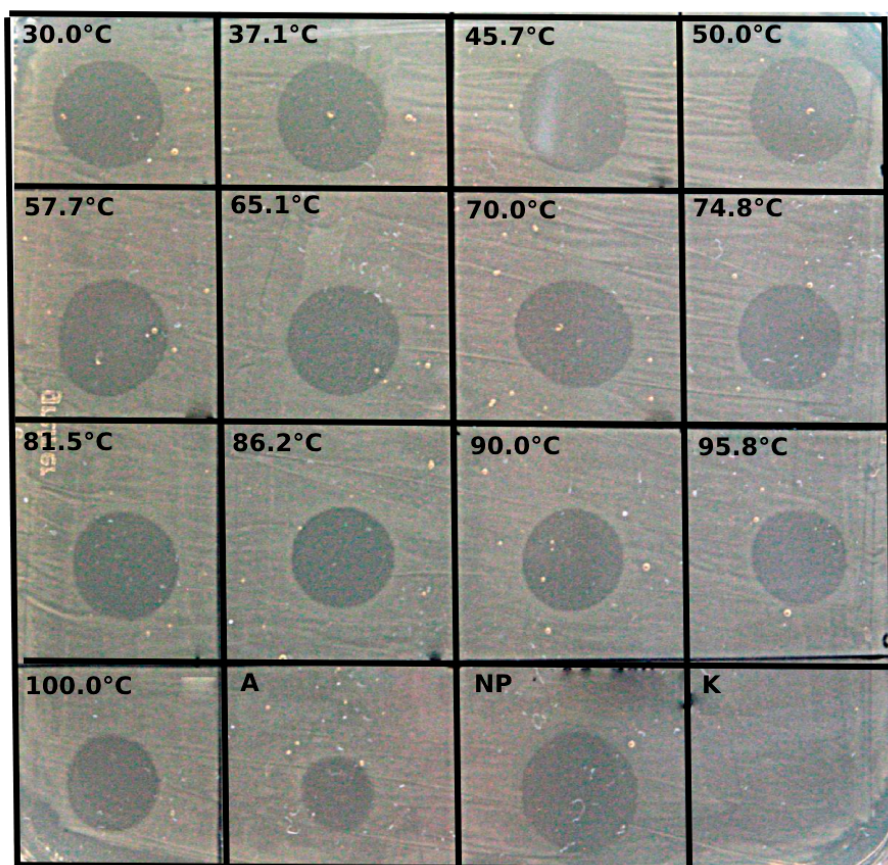


Figure S3. Recombinant fusion endolysin CBD_TP84_28_His thermostability determination – spot assay.

CBD_TP84_28_His preparations preincubated at temperatures of 30-100°C, autoclaved (A), not preincubated (NP), and buffer R (K) were applied to the agar plate with freshly spread *G. stearothermophilus* strain 10 cells, followed by incubation of the plate at 55°C for 10 h. Transparent circles on the bacterial lawn reveal the lytic effect of the recombinant enzyme.