

Supplementary data

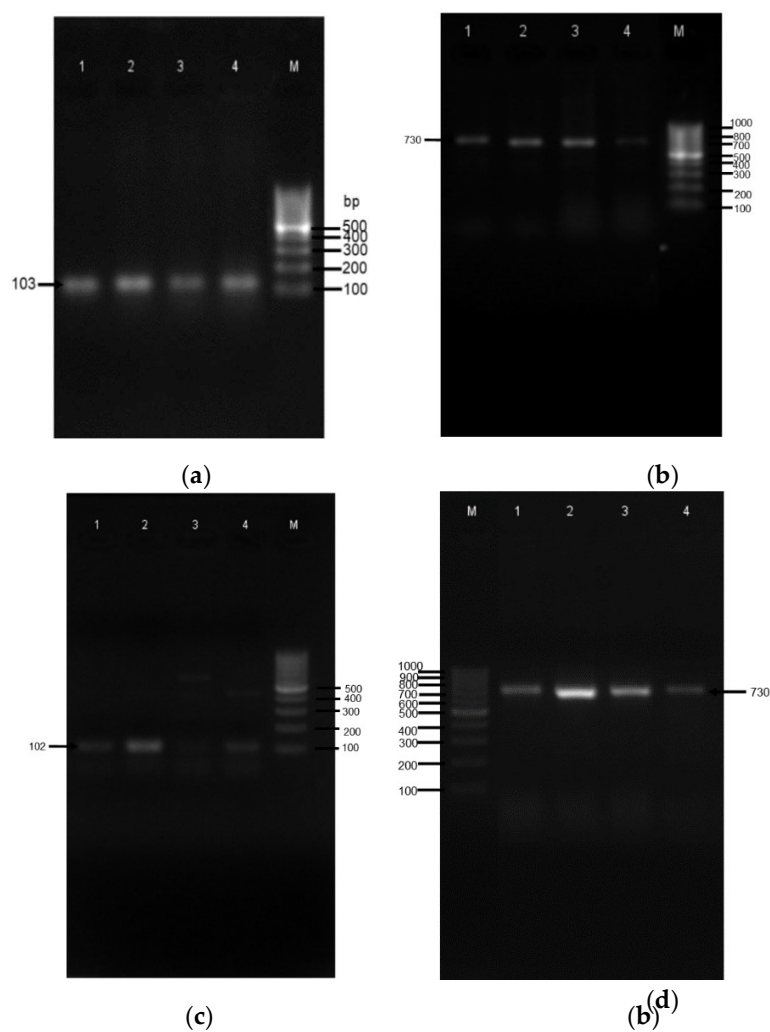


Figure S1. Gel electrophoresis of colony PCR amplification of gene and plasmid fragments.

(a) colonies positive for actifensin gene, L1 – 4, M-100 bp ladder; (b) actifensin-positive clones showing the presence of pTXB1, L1 – 4, M-100 bp ladder; (c) colonies positive for defensin-d2 gene, L1 – 4, M-100 bp ladder; (d) actifensin-positive clones showing the presence of pTXB1, L1 – 4, M-100 bp ladder.

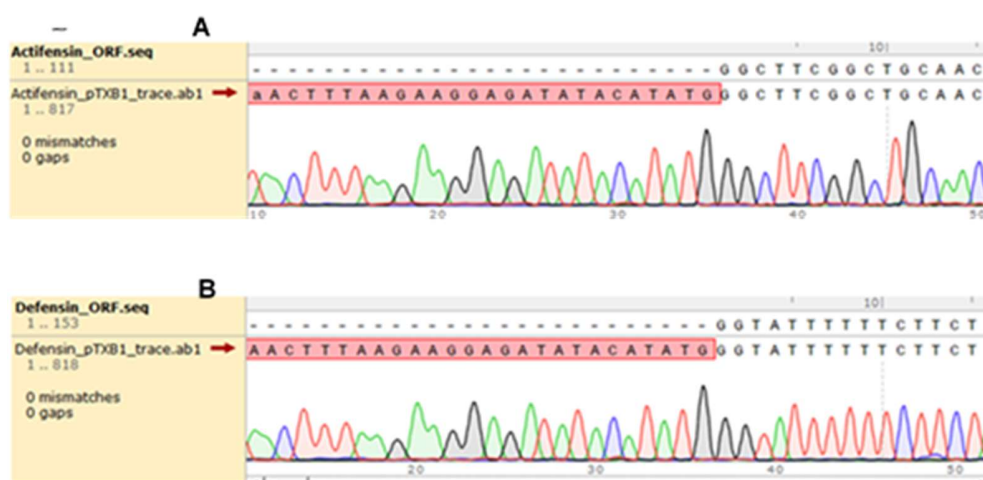


Figure S2. Alignment of actifensin ORF (A) and defensin-d2 ORF (B) with respective sequences of recombinant pTXB1 after plasmid sequencing. The alignment shows an in-frame insertion of both target genes at the start codon (ATG)

Table S1. Peptide-ligand affinity scores of defensin-d2 and actifensin

Defensin-d2			Actifensin		
Ligand symbol	Residues	Propensity score	Ligand symbol	Residues	Propensity score
ACT	F	5	ACT	F	5
	R	8		R	8
	Y	6		Y	6
				H	9
PO ₄	R	8	PO ₄	R	8
				H	9
EDO	F	6	EDO	F	6
	R	7		R	7
	K	4		K	4
	N	5		N	5
	Y	9		Y	9
				H	5
PA8	-	-	PA8	-	-
PGE	R	5	PGE	R	5
	Y	6		Y	6
MRD	F	6	MRD	F	6
	R	5		R	5
	Y	8		Y	8
	M	5			
P10	R	5	P10	R	5
	I	4		I	4
				K	9
	K	9		H	6
44E	-	-	44E	-	-
SO ₄	R	9	SO ₄	R	9

	K	4		K	4
				H	6
GOL	F	4	GOL	F	4
	R	6		R	6
	N	4		N	4
	D	4		Y	6
				Q	4
				H	6
CL	R	9	CL	R	9
	K	5		K	5
	N	5		N	5
				H	9
FLC	R	8	FLC	R	8
	K	4		K	4
				H	9
PEG	R	5	PEG	R	5
	Y	6		Y	6
				H	5
13C	R	6	13C	R	6
	Y	5		Y	5
				N	4
				H	9