



Supplementary Information

Adsorption of Recombinant Human β -Defensin 2 and Two Mutants on Mesoporous Silica Nanoparticles and Its Effect against *Clavibacter michiganensis* subsp. *michiganensis*

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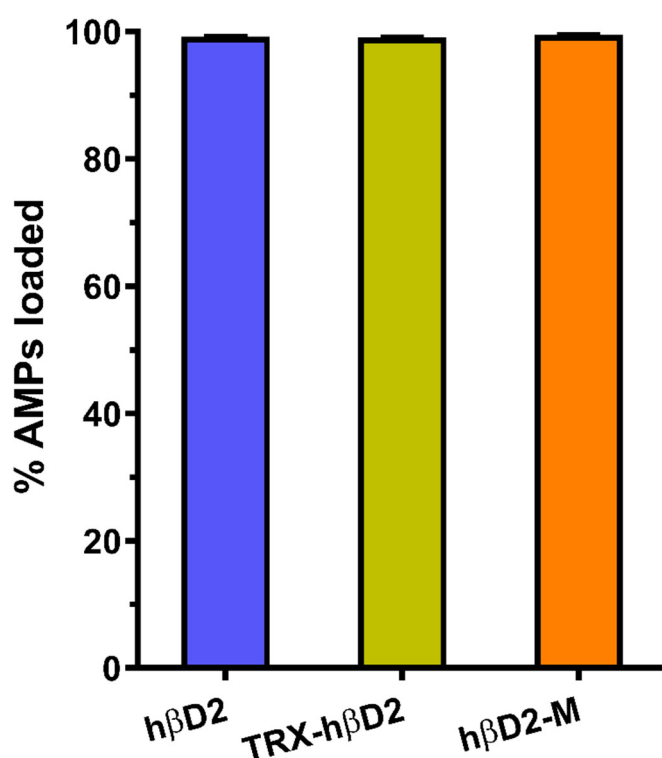


Figure S1. AMPs loaded onto MSN5.4 after 16 h incubation to 4 °C.

Table S1. Different treatments performed for the synthesis of MSN.

Reagents	Treatment 1 (MSN5.4)	Treatment 2 (MSN 4.8)	Treatment 3 (MSN0.9)	Treatment 4 (MSN0.9')
F127 (O106PO70EO10 6)	50 mg	50 mg	50 mg	50 mg

DHMA (<i>N, N</i> -dimethylhexadecylamine)	0.4 mL	0.8 mL	0.4 mL	0.8 mL
CTAB (cetyltrimethylammonium bromide)	0.5 g	0.5 g	0.5 g	0.5 g
H ₂ O	240 mL	240 mL	240 mL	240 mL
NaOH (2 M)	1.75 mL	1.75 mL	1.75 mL	1.75 mL
TEOS (Tetraethyl orthosilicate)	2.5 mL	2.5 mL	1.1875 mL	1.1875 mL

Table S2. Physicochemical characteristics of AMPs.

Protein	Sequence	Theoretical weight	Isoelectric point ^a	Dimensions
hβD2	GAMGIGDPVTC LKSGAICHPVF CPR- RYKQIGTCGLP GTKCCKKP	4.6 kDa	9.3	2.3 × 3.45 × 2.45 nm ³
TRX-hβD2-M	MKHHHHHHHP MSDKIIHLTDDS FD TDVL- KADGAILVDF- WAEWCGPC KMIAPILDEI- ADEYQGKLT- VAKLNI DQNPGTAP- KYGIRGIPT- LLLFKNG EVAAT- KVGALSKGQLK EFLDANL AGSGSGSEN- LYFQGAMG- GIGDP VTCLKSGAICH PVFCPRRYKQIG TCGLPGTKCCK KR	18.9 kDa	8.1	3.97 × 7 × 3.08 nm ³
hβD2-M	GAMG- GIGDPVTCLKS GAICHPVF CPR- RYKQIGTCGLP GTKCCKKR	4.7 kDa	9.5	2.74 × 3.25 × 2.28 nm ³

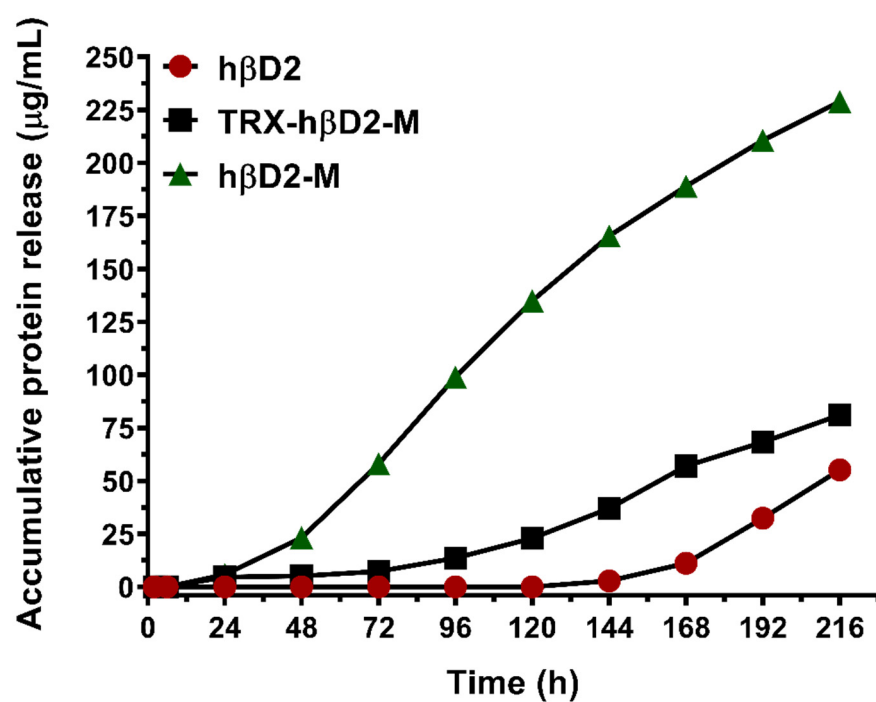


Figure S2. Cumulative release of AMPs with respect to time.

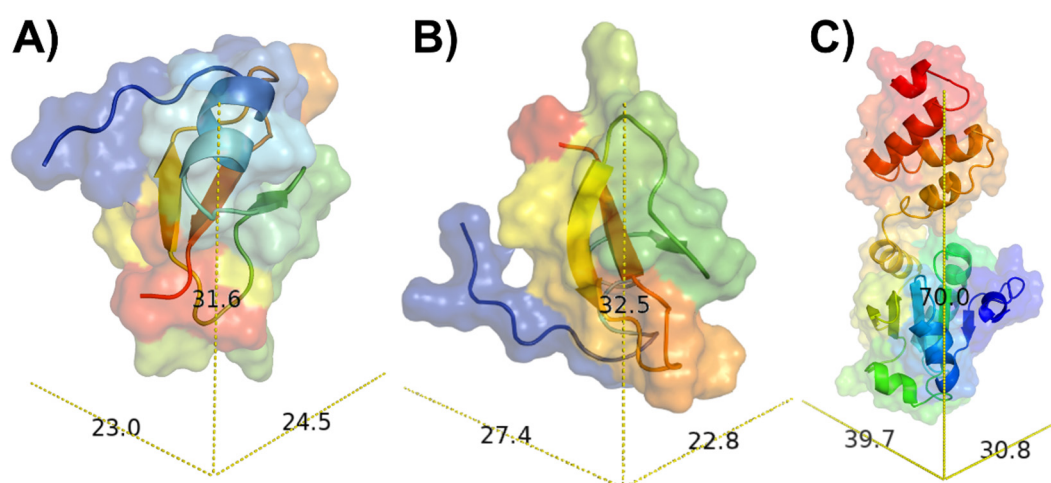


Figure S3. AMPS measurements with the Pymol software.