

[009d] In another aspect, the present disclosure refers to a polynucleotide encoding the isolated polypeptide as described herein or the complement of the polynucleotide.

[009e] In another aspect, the present disclosure refers to a vector comprising the polynucleotide as described herein.

[009f] In yet another aspect, the present disclosure refers to an isolated host cell comprising one or more of: the isolated polypeptide as described herein, an antibody or antigen binding fragment that recognizes and binds the isolated polypeptide, a polynucleotide encoding the isolated polypeptide or the antibody or antigen binding fragment, a complement of the polynucleotide, or a vector comprising the polynucleotide.

[009g] In yet another aspect, the present disclosure refers to an isolated B Box polypeptide prepared by growing a prokaryotic cell expressing an isolated polynucleotide encoding the isolated polypeptide as described herein under conditions for expression of the polynucleotide and isolated the polypeptide.

[009h] In yet another aspect, the present disclosure refers to an *ex vivo* method for inhibiting, competing or titrating the binding of a DNABII polypeptide or protein to a bacterial DNA, comprising contacting the DNABII polypeptide or protein or the bacterial DNA with the isolated polypeptide as described herein, thereby inhibiting, competing or titrating the binding of the DNABII protein or polypeptide to the bacterial DNA.

[009i] In yet another aspect, the present disclosure refers to an *ex vivo* method for inhibiting, preventing or breaking down a bacterial biofilm, comprising contacting the bacterial biofilm with the isolated polypeptide as described herein, thereby inhibiting, preventing or breaking down the bacterial biofilm.

[009j] In yet another aspect, the present disclosure refers to a use of the isolated polypeptide as described herein in the manufacture of a medicament for one or more of the following: (a) inhibiting, preventing or breaking down a bacterial biofilm in a subject, (b) inhibiting, preventing or treating a microbial infection that produces a bacterial biofilm in a subject, (c) disrupting a bacterial biofilm and clearance thereof that does not enhance or induce an inflammatory response in a subject in need thereof, or (d) treating an infection or disorder incident to the presence of a bacterial biofilm in a subject in need thereof,

wherein the polypeptide is to be administered into the subject, thereby (a') inhibiting, preventing or breaking down the bacterial biofilm, (b') inhibiting, preventing or treating a microbial infection that

What is claimed is:

1. An isolated B Box polypeptide consisting of an amino acid sequence as shown in SEQ ID NO: 12.
2. An antibody that recognizes and binds an isolated polypeptide of claim 1 or an antigen binding fragment of the antibody.
3. A composition comprising a carrier and one or more isolated polypeptide of claim 1 or an antibody or antigen binding fragment that recognizes and binds the isolated polypeptide, or an isolated host cell comprising one or more of: the isolated polypeptide, the antibody or antigen binding fragment, a polynucleotide encoding the isolated polypeptide or the antibody or antigen binding fragment, a complement of the polynucleotide, or a vector comprising the polynucleotide.
4. A polynucleotide encoding the isolated polypeptide of claim 1 or the complement of the polynucleotide.
5. A vector comprising the polynucleotide of claim 4.
6. An isolated host cell comprising one or more of: the isolated polypeptide of claim 1, an antibody or antigen binding fragment that recognizes and binds the isolated polypeptide, a polynucleotide encoding the isolated polypeptide or the antibody or antigen binding fragment, a complement of the polynucleotide, or a vector comprising the polynucleotide.
7. An isolated B Box polypeptide prepared by growing a prokaryotic cell expressing an isolated polynucleotide encoding the isolated polypeptide of claim 1 under conditions for expression of the polynucleotide and isolated the polypeptide.
8. The isolated B Box polypeptide of claim 7, wherein the prokaryotic cell is an *E. coli* cell.
9. An *ex vivo* method for inhibiting, competing or titrating the binding of a DNABII polypeptide or protein to a bacterial DNA, comprising contacting the DNABII polypeptide or protein or the bacterial DNA with the isolated polypeptide of any one of claims 1, 7 or 8, thereby inhibiting, competing or titrating the binding of the DNABII protein or polypeptide to the bacterial DNA.

10. An *ex vivo* method for inhibiting, preventing or breaking down a bacterial biofilm, comprising contacting the bacterial biofilm with the isolated polypeptide of any one of claims 1, 7 or 8, thereby inhibiting, preventing or breaking down the bacterial biofilm.

11. The method of claim 9 or claim 10, wherein the biofilm is produced by an organism selected from the group of uropathogenic *Escherichia coli* (UPEC), *Klebsiella pneumoniae*, *Burkholderia cenocepacia*, and nontypeable *Haemophilus influenzae* (NTHI).

12. Use of the isolated polypeptide of any one of claims 1, 7 or 8, in the manufacture of a medicament for one or more of the following: (a) inhibiting, preventing or breaking down a bacterial biofilm in a subject, (b) inhibiting, preventing or treating a microbial infection that produces a bacterial biofilm in a subject, (c) disrupting a bacterial biofilm and clearance thereof that does not enhance or induce an inflammatory response in a subject in need thereof, or (d) treating an infection or disorder incident to the presence of a bacterial biofilm in a subject in need thereof,

wherein the polypeptide is to be administered into the subject, thereby (a') inhibiting, preventing or breaking down the bacterial biofilm, (b') inhibiting, preventing or treating a microbial infection that produces the bacterial biofilm in the subject, (c') disrupting the bacterial biofilm and clearance thereof that does not enhance or induce an inflammatory response, or (d') treating the infection or disorder incident to the presence of the bacterial biofilm in the subject, respectively.

13. The use of claim 12, wherein the biofilm is produced by an organism selected from the group of uropathogenic *Escherichia coli* (UPEC), *Klebsiella pneumoniae*, *Burkholderia cenocepacia*, *S. epidermidis*, *Streptococcus agalactiae*, *Neisseria meningitidis*, *Treponemes*, *denticola*, *pallidum*), *Burkholderia cepacia*, *Burkholderia pseudomallei*, *Haemophilus influenzae* (nontypeable)(NTHI), *Moraxella catarrhalis*, *Streptococcus pneumoniae*, *Streptococcus pyogenes*, *Mycobacterium tuberculosis* or an ESKAPE pathogen.

14. The use of claim 13, wherein an antimicrobial is to be further administered into the subject.

15. A kit comprising one or more of: the isolated polypeptide of any one of claims 1, 7, or 8, an antibody or antigen binding fragment that recognizes and binds the isolated polypeptide, a

polynucleotide encoding the isolated polypeptide or the antibody or antigen binding fragment, or a complement of the polynucleotide and instructions for use.

16. The isolated polypeptide of any one of claims 1, 7, or 8 for use in therapy.