Claims

1. A composition comprising ~~An~~an ~~isolated~~ *Mycobacterium*, for ~~use in the~~ prevention of post-traumatic stress disorder (PTSD) and the symptoms associated with such a disorder.

2. A composition ~~*Mycobacterium* for use~~ according to claim 1, wherein~~which~~ the *Mycobacterium* comprises a whole cell *Mycobacterium*.

3. A composition ~~*Mycobacterium* for use~~ according to claim 1 or claim 2, ~~which~~ wherein the *Mycobacterium* comprises a non-pathogenic heat-killed *Mycobacterium*.

4. A composition ~~*Mycobacterium* for use~~ according to claim 3, wherein the non-pathogenic heat-killed *Mycobacterium* is selected from *M. vaccae*, *M. obuense*, *M. parafortuitum*, *M. aurum*, *M. indicus pranii*, and combinations thereof.

5. A composition ~~*Mycobacterium* for use~~ according to claim 4 which is *M. vaccae* or *M. obuense*.

6. A composition ~~mycobacterium for use~~ according to any of claims 1 to 5, ~~which~~ wherein the *Mycobacterium* is a rough variant.

7. A composition ~~mycobacterium for use according to any preceding claim~~according to any one of claims 1-6, in the form of a vaccine composition optionally comprising an adjuvant.

8. A composition ~~mycobacterium for use according to any preceding claim~~according to any one of claims 1-7, ~~wherein the mycobacterium~~which is for administration to military personnel.

9. A composition ~~mycobacterium for use according to any preceding claim~~according to any one of claims 1-8, ~~wherein the mycobacterium~~which is to be administered in repeat doses.

10. A composition ~~mycobacterium for use according to any preceding~~

~~claim~~according to any one of claims 1-9, wherein the ~~mycobacterium~~ *Mycobacterium* is present in a unit dose comprising an effective amount of nonpathogenic heat-killed Mycobacterium from 10^7 to 10^9 cells.

11. A composition ~~*Mycobacterium* for use according to any preceding claim~~according to any one of claims 1-10 ~~wherein the *Mycobacterium*~~ which is for administration via the parenteral, oral, sublingual, nasal or pulmonary route.

12. A composition ~~*Mycobacterium* for use~~ according to claim 11, ~~wherein the Mycobacterium~~which is for administration via the oral route.

13. A composition ~~*Mycobacterium* for use~~ according to claim 11, wherein the parenteral route is selected from subcutaneous, intradermal, subdermal, intraperitonal, intravenous, or intravesicular injection.

14. A composition ~~*Mycobacterium* for use according to any preceding claim~~according to any one of claims 1-13, which prevents at least one sign or symptom of post-traumatic stress disorder wherein the sign or symptom is selected from disorganized or agitated behaviour, problems with pain perception and pain tolerance, headache, difficult falling or staying asleep, repetitive play that expresses aspects of the trauma, frightening dreams which lack recognizable content, and trauma-specific re-enactment.

15. A composition ~~*Mycobacterium* for use according to any preceding claim~~according to any one of claims 1-14, which prevents at least one symptom cluster of post-traumatic stress disorder wherein the symptom cluster is selected from re-experiencing/intrusion, avoidance/numbing, and hyper-arousal.

16. A composition comprising ~~An~~an ~~isolated~~ *Mycobacterium*, for administration to a subject to prevent the subject's levels of IL-6 from becoming elevated following exposure to a traumatic event.

17. A composition ~~An isolated *Mycobacterium*~~ according to claim 16, wherein said traumatic event is selected from military combat, terrorist

incidents, physical assault, sexual assault, motor vehicle accidents, and natural disasters.

18. A composition~~*Mycobacterium*, for use~~ according to claim 15 or 16, wherein the subject is a military employee.