CLAIMS

1. Use of a composition comprising a bacterial strain of the genus *Blautia*, in the manufacture of a medicament for the treatment or prevention of a central nervous system disorder or condition selected from the group consisting of: a neurodevelopmental disorder; a neuropsychiatric condition; autism spectrum disorders (ASDs); child developmental disorder; obsessive compulsive disorder (OCD); major depressive disorder; depression; seasonal affective disorder; ~~anxiety disorders;~~ chronic fatigue syndrome (myalgic encephalomyelitis); stress disorder; post-traumatic stress disorder; schizophrenia spectrum disorders; schizophrenia; bipolar disorder; psychosis; mood disorder; dementia; Alzheimer's; Parkinson's disease; chronic pain; motor neuron disease; Huntington's disease; Guillain Barre syndrome and meningitis, wherein the neuropsychiatric condition is not an anxiety disorder.

2. The use according to claim 1, wherein:

the central nervous system disorder or condition is mediated by the microbiota-gut-brain axis; or the medicament is ~~intended to~~ for treating or preventing autism spectrum disorder~~, preferably wherein the medicament is intended to reduce autism~~.

3. The use according to any preceding claim, wherein the medicament is ~~intended to~~ for preventing, ~~reduce~~ reducing or ~~alleviate~~ alleviating stereotyped, repetitive, compulsive and/or anxious behaviour.

4. The use according to claim 1, wherein the medicament is for~~intended to~~ treating or preventing:

a. obsessive compulsive disorder~~, preferably wherein the medicament is intended to prevent, reduce or alleviate repetitive, compulsive and/or anxious behaviour~~;

~~b.~~ major depressive disorder~~, preferably wherein the medicament is intended to treat or prevent acute major depressive episodes and/or prevent new episodes (recurrence prevention), further preferably wherein the medicament is intended to prevent, reduce or alleviate the occurrence of mild, moderate or severe MDD episodes~~; or

~~c.~~b. ~~anxiety disorders, preferably wherein the anxiety disorder is generalised anxiety disorder (GAD); specific phobia; social anxiety disorder; separation anxiety disorder; agoraphobia; panic disorder and/or selective mutism; or~~

~~d.~~c. a neurocognitive disorder~~, preferably wherein the neurocognitive disorder is vascular dementias; mixed form Alzheimer's disease and vascular dementia; Lewy body disease; frontotemporal dementia; Parkinson's dementia; Creutzfeldt-Jakob disease; Huntington's disease; and Wernicke Korsakoff syndrome~~.

5. The use according to any preceding claim, wherein the medicament is for ~~intended to~~ modulate~~ing~~ the microbiota-gut-brain axis.

6. The use according to any preceding claim, wherein:

a. the bacterial strain is of *Blautia stercoris*;

b. the bacterial strain is of *Blautia wexlerae*; or

c. the bacterial strain is of *Blautia hydrogenotrophica*.

7. The use according to any of claims 1-6, wherein the bacterial strain has a 16s rRNA sequence that:

a. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to the 16s rRNA sequence of a bacterial strain of *Blautia stercoris*;

b. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to SEQ ID NO:1 or 2~~, preferably wherein the bacterial strain has a 16s rRNA sequence that is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to SEQ ID NO:2, or wherein the bacterial strain has the 16s rRNA sequence represented by SEQ ID NO:2~~;

c. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to the 16s rRNA sequence of a bacterial strain of *Blautia wexlerae*;

d. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to SEQ ID NO:3 or 4~~, preferably wherein the bacterial strain has a 16s rRNA sequence that is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to SEQ ID NO:4, or wherein the bacterial strain has the 16s rRNA sequence represented by SEQ ID NO:4~~;

e. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to the 16s rRNA sequence of a bacterial strain of *Blautia hydrogenotrophica*; or

f. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to SEQ ID NO:7.

8. The use according to claim 1, wherein the medicament comprises:

a. a bacterial strain of the species *Blautia stercoris*, for use in a method of treating or preventing autism spectrum disorder~~, preferably wherein the medicament is intended to reduce or prevent autism, further preferably wherein the medicament comprises a bacterial strain of the species *Blautia stercoris* that is intended to prevent, reduce or alleviate stereotyped, repetitive, compulsive and/or anxious behaviour~~;

b. a bacterial strain of the species *Blautia stercoris*, ~~intended to~~ for treating or preventing obsessive compulsive disorder~~, preferably wherein the medicament comprises a bacterial strain of the species *Blautia stercoris* intended to prevent, reduce or alleviate repetitive, compulsive and/or anxious behaviour~~;

~~c.~~ a bacterial strain of the species *Blautia stercoris*, ~~intended to~~for ~~-~~treating or preventing major depressive disorder~~, preferably wherein the medicament comprises a bacterial strain of the species *Blautia stercoris* intended to treat or prevent acute major depressive episodes and/or prevent of new episodes (recurrence prevention), further preferably wherein the medicament is intended to prevent, reduce or alleviate the occurrence of mild, moderate or severe MDD episodes~~; or

~~d.~~c. ~~a bacterial strain of the species *Blautia stercoris*, intended to treat or prevent anxiety disorders, preferably wherein the anxiety disorder is generalised anxiety disorder (GAD); specific phobia; social anxiety disorder; separation anxiety disorder; agoraphobia; panic disorder and/or selective mutism; or~~

~~e.~~d. a bacterial strain of the species *Blautia stercoris*, ~~intended to~~ for treating or preventing neurocognitive disorders~~, preferably wherein the neurocognitive disorder is vascular dementias; mixed form Alzheimer's disease and vascular dementia; Lewy body disease; frontotemporal dementia; Parkinson's dementia; Creutzfeldt-Jakob disease; Huntington's disease; and Wernicke Korsakoff syndrome~~.

9. The use according to claim 1, wherein the medicament comprises:

a. a bacterial strain of the species *Blautia wexlerae*, ~~intended to~~ for treating or preventing autism spectrum disorder~~, preferably wherein the medicament is intended to reduce or prevent autism, further preferably wherein the medicament comprises a bacterial strain of the species *Blautia wexlerae* intended to prevent, reduce or alleviate stereotyped, repetitive, compulsive and/or anxious behaviour~~;

b. a bacterial strain of the species *Blautia wexlerae*, ~~intended to~~for ~~-~~treating or preventing obsessive compulsive disorder~~, preferably wherein the medicament comprises a bacterial~~

~~strain of the species *Blautia wexlerae* is intended to prevent, reduce or alleviate repetitive, compulsive and/or anxious behaviour~~;

~~c.~~ a bacterial strain of the species *Blautia wexlerae*, ~~is intended to~~for treating or preventing major depressive disorder~~, preferably wherein the medicament comprises a bacterial strain of the species *Blautia wexlerae* is intended to treat or prevent acute major depressive episodes and/or prevent new episodes (recurrence prevention), further preferably wherein the medicament is intended to prevent, reduce or alleviate the occurrence of mild, moderate or severe MDD episodes~~; or

~~d.~~c. ~~a bacterial strain of the species *Blautia wexlerae*, is intended to treat or prevent anxiety disorders, preferably wherein the anxiety disorder is generalised anxiety disorder (GAD); specific phobia; social anxiety disorder; separation anxiety disorder; agoraphobia; panic disorder and/or selective mutism; or~~

~~e.~~d. a bacterial strain of the species *Blautia wexlerae*, ~~intended to~~ for treating or preventing neurocognitive disorders~~, preferably wherein the neurocognitive disorder is vascular dementias; mixed form Alzheimer's disease and vascular dementia; Lewy body disease; frontotemporal dementia; Parkinson's dementia; Creutzfeldt-Jakob disease; Huntington's disease; and Wernicke Korsakoff syndrome~~.

10. The use according to claim 1, wherein the medicament comprises:

a. a bacterial strain of the species *Blautia hydrogenotrophica*, ~~intended to~~ for treating or preventing autism spectrum disorder~~, preferably wherein the medicament is intended to reduce or prevent autism, further preferably wherein the medicament comprises a bacterial strain of the species *Blautia hydrogenotrophica* intended to prevent, or alleviate stereotyped, repetitive, compulsive and/or anxious behaviour; a bacterial strain of the species *Blautia hydrogenotrophica*, intended to treat or prevent obsessive compulsive disorder, preferably wherein the medicament comprises a bacterial strain of the species *Blautia hydrogenotrophica* intended to prevent, reduce or alleviate repetitive, compulsive and/or anxious behaviour~~;

~~b.~~ a bacterial strain of the species *Blautia hydrogenotrophica*, ~~intended to~~for treating or preventing major depressive disorder~~, preferably wherein the medicament comprises a bacterial strain of the species *Blautia hydrogenotrophica* intended to treat or prevent acute major depressive episodes and/or prevent new episodes (recurrence prevention), further~~

~~preferably wherein the medicament is intended to prevent, reduce or alleviate the occurrence of mild, moderate or severe MDD episodes~~; or

~~c.~~b. ~~a bacterial strain of the species *Blautia hydrogenotrophica*, intended to treat or prevent anxiety disorders, preferably wherein the anxiety disorder is generalised anxiety disorder (GAD); specific phobia; social anxiety disorder; separation anxiety disorder; agoraphobia; panic disorder and/or selective mutism; or~~

~~d.~~c. a bacterial strain of the species *Blautia hydrogenotrophica*, ~~intended to~~for treating or preventing neurocognitive disorders~~, preferably wherein the neurocognitive disorder is vascular dementias; mixed form Alzheimer's disease and vascular dementia; Lewy body disease; frontotemporal dementia; Parkinson's dementia; Creutzfeldt-Jakob disease; Huntington's disease; and Wernicke Korsakoff syndrome~~.

11. The use according to any one of claims 1 to 5, wherein the bacterial strain:

a. is of *Blautia hydrogenotrophica*;

b. has a 16s rRNA sequence that is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to the 16s rRNA sequence of a bacterial strain of *Blautia hydrogenotrophica*; or

c. has a 16s rRNA sequence that is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to SEQ ID NO:7; wherein the bacterial strain increases the level of butyrate.

12. The use according to any preceding claim, wherein:

a. the medicament is for oral administration;

b. the medicament comprises one or more pharmaceutically acceptable excipients or carriers;

c. the bacterial strain is lyophilised; and/or

d. the bacterial strain is viable and capable of partially or totally colonising the intestine.

13. The use according to any preceding claim, wherein the medicament comprises a single strain of *Blautia*; or the medicament comprises the *Blautia* bacterial strain as part of a microbial consortium.

14. The use of any preceding claim, wherein the medicament is incorporated into a food product.

15. A cell of the *Blautia stercoris* strain deposited under accession number NCIMB 42381 for the use of any of claims 1-5 and 12-14.

16. A cell of the *Blautia wexlerae* strain deposited under accession number NCIMB 42486 for the use of any of claims 1-5 and 12-14.

17. A composition comprising the cell of any one of claims 15 or 16 for the use of any of claims 1-5 and 12-14.

18. The composition of claim 17 or claim 18, comprising a pharmaceutically acceptable carrier or excipient.

19. A composition comprising a bacterial strain of the genus *Blautia*, for use in a method of treating or preventing a central nervous system disorder or condition selected from the group consisting of: a neurodevelopmental disorder; a neuropsychiatric condition; autism spectrum disorders (ASDs); child developmental disorder; obsessive compulsive disorder (OCD); major depressive disorder; depression; seasonal affective disorder; ~~anxiety disorders;~~ chronic fatigue syndrome myalgic encephalomyelitis); stress disorder; post-traumatic stress disorder; schizophrenia spectrum disorders; schizophrenia; bipolar disorder; psychosis; mood disorder; dementia; Alzheimer's; Parkinson's disease; chronic pain; motor neuron disease; Huntington's disease; Guillain Barre syndrome and meningitis, wherein the neuropsychiatric condition is not an anxiety disorder and wherein the bacterial strain has a 16s rRNA sequence that:

a. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to the 16s rRNA sequence of a bacterial strain of *Blautia stercoris*;

b. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to SEQ ID NO:1 or 2;

c. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to the 16s rRNA sequence of a bacterial strain of *Blautia wexlerae*;

d. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to SEQ ID NO:3 or 4;

e. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to the 16s rRNA sequence of a bacterial strain of *Blautia hydrogenotrophica*; or

f. is at least 95%, 96%, 97%, 98%, 99%, 99.5% or 99.9% identical to SEQ ID NO:7.