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.

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 treat or prevent 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 prevent, reduce or alleviate stereotyped, repetitive, compulsive and/or anxious behaviour.

4. The use according to claim 1, wherein the medicament is intended to treat or prevent:
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;
c) 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) 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 intended to modulate 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 treat or prevent 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 treat or prevent 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;

d) 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) a bacterial strain of the species *Blautia stercoris*, intended to treat or prevent 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 treat or prevent 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 treat or prevent 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 treat or prevent 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;

d) 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) a bacterial strain of the species *Blautia wexlerae*, intended to treat or prevent 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 treat or prevent 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 treat or prevent 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;

c) 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) a bacterial strain of the species *Blautia hydrogenotrophica*, intended to treat or prevent 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.