CLAIMS

1. Trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-N',N'-dimethylurea and/or its close analogs and/or its derivatives and/or its metabolites and/or pharmaceutically acceptable salts thereof for use in treating autism spectrum disorder, wherein core symptom of autism spectrum disorder are socio-communicational deficits.

2. Trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-N',N'-dimethylurea and/or its close analogs and/or its derivatives and/or its metabolites and/or pharmaceutically acceptable salts thereof for use in treating autism spectrum disorder, wherein core symptom of autism spectrum disorder are restricted and repetitive behaviors.

3. Trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-N',N'-dimethylurea and/or its close analogs and/or its derivatives and/or its metabolites and/or pharmaceutically acceptable salts thereof for use in treating irritability associated with autism spectrum disorder, wherein the condition to be treated is autism spectrum disorder associated with irritability.

4. Trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-N',N'-dimethylurea and/or its close analogs and/or its derivatives and/or its metabolites and/or pharmaceutically acceptable salts thereof for use in treating autism spectrum disorder, wherein the condition to be treated is autism spectrum disorder associated with attention deficit and hyperactivity.

5. The use of trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-N',N'-dimethylurea and/or its close analogs and/or its derivatives and/or its metabolites and/or pharmaceutically acceptable salts thereof in the manufacture of medicament for the treatment of a symptom of autism spectrum disorder.

6. The use according to claim 5 wherein the core symptoms of autism spectrum disorder are socio-communicational deficits.

7. The use according to claim 5, wherein the core symptoms of autism spectrum disorder are restricted and repetitive behaviors.

8. The use according to claim 5, wherein the condition to be treated is irritability associated with autism spectrum disorder.

9. The use according to claim 5, wherein the condition to be treated is attention deficit and hyperactivity associated with autism spectrum disorder.

10. The use according to any of claims from 5 to 9 wherein trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-N',N'-dimethylurea is in the form of trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-N',N'-dimethylurea hydrochloride.

11. The use according to any of claims from 5 to 9 wherein trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-morpholine-4 carboxamide is used.

12. The use according to any of claims from 5 to 9 and 11 wherein trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-morpholine-4 carboxamide is in the form of trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-morpholine-4 carboxamide hydrochloride.

13. A pharmaceutical composition comprising trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-N',N'-dimethylurea and/or its close analogs and/or its derivatives and/or its metabolites and/or pharmaceutically acceptable salts thereof and a pharmaceutically acceptable excipient, for its use for the treatment of one or more core symptoms of autism spectrum disorder.

14. A pharmaceutical composition for its use according to claim 13, wherein the core symptoms of autism spectrum disorder are socio-communicational deficits.

15. A pharmaceutical composition for its use according to claim 13, wherein the core symptoms of autism spectrum disorder are restricted and repetitive behaviors.

16. A pharmaceutical composition for its use according to claim 13, the condition to be treated is irritability associated with autism spectrum disorder.

17. A pharmaceutical composition for its use according to claim 13, wherein the condition to be treated is attention deficit and hyperactivity associated with autism spectrum disorder.

18. A pharmaceutical combination comprising trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-N',N'-dimethylurea and/or its close analogs and/or its derivatives and/or its metabolites and/or pharmaceutically acceptable salts thereof and at least one adjunctive therapeutical agent for use in treating autism spectrum disorder.

19. A pharmaceutical combination according to claim 18, wherein at least one adjunctive therapeutical agent is selected from the group consisted of psychostimulants/nootropics, antipsychotics, antidepressants, anxiolytics, antihypertensives, antiepileptics, narcotics and spasmolytics.

20. A pharmaceutical combination according to claim 19, wherein psychostimulants/nootropics are selected from the list comprising amphetamine, methylphenidate, modafinil, atomoxetine, vinpocetine, donepezil and memantine.

21. A pharmaceutical combination according to claim 19, wherein antipsychotics are selected from the list comprising haloperidol, pimozide, clozapine, olanzapine, quetiapine, sertindole, ziprasidone, lurasidone, risperidone, aripiprazole, brexpiprazole, iloperidone, paliperidone and lithium.

22. A pharmaceutical combination according to claim 19, wherein antidepressants are selected from the list comprising desipramine, imipramine, clomipramine, amitriptyline, nortriptyline, vilazodone, vortioxetine, fluoxetine, paroxetine, sertraline, fluvoxamine, citalopram,

escitalopram moclobemide, mianserin, trazodone, nefazodone, mirtazapine, tianeptine, venlafaxine, milnacipran, reboxetine, duloxetine, agomelatine, bupropion and gepirone.

23. A pharmaceutical combination according to claim 19, wherein anxiolytics are selected from the list comprising diazepam, chlorodiazepoxide, oxazepam, lorazepam, alprazolam and buspirone.

24. A pharmaceutical combination according to claim 19, wherein antihypertensive is selected from clonidine and guanfacine.

25. A pharmaceutical combination according to claim 19, wherein antiepileptics are selected from the list comprising phenobarbital, phenytoin, ethosuximide, clonazepam, carbamazepine, oxcarbazepine, valproic acid, valpromide, vigabatrin, tiagabine, lamotrigine, topiramate, gabapentin, levetiracetam, zonisamide and pregabalin.

26. A pharmaceutical combination according to claim 19, wherein narcotics are selected from the list comprising pentobarbital, midazolam, zopiclone, zolpidem, melatonin and ramelteon.

27. A pharmaceutical combination according to claim 19, wherein spasmolytics are selected from the list comprising baclofen, arbaclofen, tolperisone and papaverine.

28. Use of a pharmaceutically effective amount of trans-N-[4-[2-[4-(2,3-dichlorophenyl)piperazin-1-yl]ethyl]cyclohexyl]-N',N'-dimethylurea or a pharmaceutically salt, ester, metabolite or prodrug thereof, in the manufacture of a medicament for treating a disease or disorder selected from Asperger's syndrome, atypical autism (otherwise known as pervasive developmental disorder not otherwise specified; PDD-NOS), Rett syndrome, childhood disintegrative disorder, attention deficit hyperactivity disorder (ADHD) and sensory integration dysfunction, wherein said medicament is to be administered to a patient in need thereof.

29. The use according to claim 28 wherein said disease or disorder is Asperger's syndrome.

30. The use according to claim 28 wherein said disease or disorder is atypical autism.

31. The use according to claim 28 wherein said disease or disorder is Rett syndrome.

32. The use according to claim 28 wherein said disease or disorder is childhood disintegrative disorder.

33. The use according to claim 28 wherein said disease or disorder is attention deficit hyperactivity disorder (ADHD).

34. The use according to claim 28 wherein said disease or disorder is sensory integration dysfunction.