Claims

1. A liquid pharmaceutical formulation comprising a salt of 1-[2-(2,4-dimethylphenylsulfanyl)phenyl]piperazine selected from the DL-lactic acid addition salt, L-lactic acid addition salt and the D-lactic acid addition salt.

2. The liquid formulation according to claim 1, wherein said salt is selected from: the β form of the DL-lactic acid addition salt characterised by XRPD reflections at 6.01, 10.10, 10.32, 12.06, 12.84, 13.08 and 13.58 (°2θ); the MH 2 form of the D-lactic acid addition salt characterised by XRPD reflections at 5.33, 9.75, 10.10, 14.44 and 14.63 (°2θ); and the MH 2 form of the L-lactic acid addition salt characterised by XRPD reflections at 5.33, 9.75, 10.10, 14.44 and 14.63 (°2θ).

3. The liquid formulation according to claim 1, wherein said salt is the β form of the DL-lactic acid addition salt characterised by XRPD reflections at 6.01, 10.10, 10.32, 12.06, 12.84, 13.08 and 13.58 (°2θ).

4~~2~~. The liquid formulation according to claim 1, wherein said salt is the DL-lactic acid addition salt.

5~~3~~. The liquid formulation according to claim 1, wherein said salt is the L-lactic acid addition salt.

6~~4~~. The liquid formulation according to claim 1, wherein said salt is the D-Lactic acid addition salt.

7~~5~~. The liquid formulation according to any of claims 1-6~~4~~, wherein the concentration of said salt is above 2.5 mg/mL.

8~~6~~. The use of a salt of 1-[2-(2,4-dimethylphenylsulfanyl)phenyl]piperazine selected from the DL-lactic acid addition salt, L-lactic acid addition salt and the D-lactic acid addition salt in the manufacture of a liquid formulation for the treatment of a disease selected from mood disorders; major depressive disorder; general anxiety disorder; panic disorder; post traumatic stress disorder; depression associated with cognitive impairment,

Alzheimer's disease or anxiety; depression with residual symptoms; chronic pain; eating disorder or abuse, wherein said salt is in a liquid formulation.

9~~7~~. The use according to claim 8~~6~~ wherein said salt is the DL-lactic acid addition salt.

10~~8~~. The use according to claim 9~~7~~, wherein said salt is the β form of the DL-lactic acid addition salt characterised by XRPD reflections at 6.01, 10.10, 10.32, I2.06, 12.84, 13.08 and 13.58 (°2θ).

11~~9~~. The use according to claim 8~~6~~, wherein said salt is the L-lactic acid addition salt.

12~~10~~. The use according to claim 11~~9~~, wherein said salt is the MH 2 form of the L-lactic acid addition salt characterised by XRPD at 5.33, 9.75, 10.10, 14.44 and 14.63 (°2θ).

13~~11~~. The use according to claim 8~~6~~, wherein said salt is the D-Lactic acid addition salt.

14~~12~~. The use according to any of claims 8~~6~~-13~~11~~, wherein said liquid formulation comprises above 2.5 mg/mL of said salts.

15~~13~~. A salt of 1-[2-(2,4-dimethylphenylsulfanyl)phenyl]piperazine selected from the DL-lactic acid addition salt, the L-lactic acid addition salt and the D-lactic acid addition salt for use in the treatment of a disease selected from mood disorders; major depressive disorder; general anxiety disorder; panic disorder; post traumatic stress disorder; depression associated with cognitive impairment, Alzheimer's disease or anxiety; depression with residual symptoms; chronic pain; eating disorder or abuse, wherein said salt is in a liquid pharmaceutical formulation.

16. The salt according to claim 15, wherein said salt is selected from: the β form of the DL-lactic acid addition salt characterised by XRPD reflections at 6.01, 10.10, 10.32, 12.06, 12.84, 13.08 and 13.58 (°2θ); the MH 2 form of the D-lactic acid addition salt characterised by XRPD at 5.33, 9.75, 10.10, 14.44 and 14.63 (°2θ); and the MH 2 form the L-lactic acid addition salt characterised by XRPD at 5.33, 9.75, 10.10, 14.44 and 14.63 (°2θ).

17. The salt according to claim 15, wherein said salt is the β form of the DL-lactic acid addition salt characterised by XRPD reflections at 6.01, 10.10, 10.32, 12.06, 12.84, 13.08 and 13.58 (°2θ).

18~~14~~. The salt according to claim 15~~13~~ wherein said salt is the DL-lactic acid addition salt.

19~~15~~. The salt according to claim 15~~13~~, wherein said salt is the L-lactic acid addition salt.

20~~16~~. The salt according to claim 15~~13~~ wherein the salt is the D-lactic acid addition salt.

21~~17~~. The salt according to any of claims 15~~13~~-20~~16~~ wherein said liquid formulation comprises above 2.5 mg/mL of said salt.

22~~18~~. A compound which is the L-lactic acid addition salt of 1-[2-(2,4-dimethylphenylsulfanyl)phenyl]piperazine.

23~~19~~. The compound according to claim 22~~18~~ which is the MH 2 form of the L-lactic acid addition salt characterised by XRPD at 5.33, 9.75, 10.10, 14.44 and 14.63 (°2θ).

24~~20~~. A compound which is the D-lactic acid addition salt of 1-[2-(2,4-dimethylphenylsulfanyl)phenyl]piperazine.

25. A compound according to claim 24, wherein the D-lactic acid addition salt is the MH 2 form characterised by XRPD reflections at 5.33, 9.75, 10.10, 14.44 and 14.63 (°2θ).

26~~21~~. A compound which is the β form of the DL-lactic acid addition salt characterised by XRDP reflections at 6.01, 10.10, 10.32, 12.06, 12.84, 13.08 and 13.58 (°2θ).

27~~22~~. A container fitted with a drop aggregate, which container comprises a liquid formulation according to any of claims 1-7~~5~~.