Claims

1. An extended release composition of an amino-C_2-C_6-alkyl nitrate and of pharmaceutically acceptable salts thereof, wherein release is over 4-24 hours.

2. An extended release composition according to claim 1, wherein the amino-C_2-C_6-alkyl nitrate is selected from 4-aminobutyl nitrate, 3-aminopropyl nitrate, 2-amino-1-methylethyl nitrate, and 2-aminoethyl nitrate.

3. An extended release composition according to claim 1, wherein the amino-C_2-C_6-alkyl nitrate is 2-aminoethyl nitrate.

4. An extended release composition according to anyone of claims 1 to 3, wherein the pharmaceutically acceptable salt is the tosylate.

5. An extended release composition according to anyone of claims 1 to 4 further comprising another pharmaceutically active compound in a fixed-dose combination.

6. An extended release composition according to claim 5 wherein the other pharmaceutically active compound is selected from the group of angiotensin receptor blockers, angiotensin enzyme inhibitors, renin antagonists, beta blockers, calcium channel blockers, endothelin antagonists, statins, biguanides, glitazones, sulfonureas, SGLT2 antagonists, DPP-4 inhibitors, antithrombotics, antiplatelets, anticoagulants, antianginal drugs, vasodilators, and aldosterone antagonists.

7. An extended release composition according to claim 5 wherein the other pharmaceutically active compound is selected from valsartan, azilsartan, mazisentan, cilostazol, pioglitazone, sitagliptin and linagliptin.

8. An extended release composition according to anyone of claims 1 to 7 as an oral dosage form, wherein the active ingredient or ingredients are embedded in a non-ionic polymer matrix and optionally coated.

9. An extended release composition according to claim 8 in the form of multiparticulates.

10. An extended release composition according to claim 8 in the form of multiparticulates filled into hard capsules.

11. An extended release composition according to claim 8 in the form of multiparticulates compressed to a tablet.

12. An extended release composition according to claim 8 in the form of an osmotic drug delivery system.

13. An extended release composition according to anyone of claims 5 to 7 as a transdermal patch.

14. An extended release composition according to claim 13 in the form of a drug-in-adhesive patch.

15. An extended release composition according to claim 13 in the form of a reservoir patch.

16. A method of treatment of arterial hypertension, Raynaud's disease, morbus Menière, or argininosuccinic aciduria (ASA), comprising administering a therapeutically effective amount of an extended release composition of 2-aminoethyl nitrate.

Claims

1. An extended release composition of an amino-C_2-C_6-alkyl nitrate and of pharmaceutically acceptable salts thereof, wherein release is over 4-24 hours.

2. An extended release composition according to claim 1, wherein the amino-C_2-C_6-alkyl nitrate is selected from 4-aminobutyl nitrate, 3-aminopropyl nitrate, 2-amino-1-methylethyl nitrate, and 2-aminoethyl nitrate.

3. An extended release composition according to claim 1, wherein the amino-C_2-C_6-alkyl nitrate is 2-aminoethyl nitrate.

4. An extended release composition according to anyone of claims 1 to 3, wherein the pharmaceutically acceptable salt is the tosylate.

5. An extended release composition according to anyone of claims 1 to 4 further comprising another pharmaceutically active compound in a fixed-dose combination.

6. An extended release composition according to claim 5 wherein the other pharmaceutically active compound is selected from the group of angiotensin receptor blockers, angiotensin enzyme inhibitors, renin antagonists, beta blockers, calcium channel blockers, endothelin antagonists, statins, biguanides, glitazones, sulfonureas, SGLT2 antagonists, DPP-4 inhibitors, antithrombotics, antiplatelets, anticoagulants, antianginal drugs, vasodilators, and aldosterone antagonists.

7. An extended release composition according to claim 5 wherein the other pharmaceutically active compound is selected from valsartan, azilsartan, mazisentan, cilostazol, pioglitazone, sitagliptin and linagliptin.

8. An extended release composition according to anyone of claims 1 to 7 as an oral dosage form, wherein the active ingredient or ingredients are embedded in a non-ionic polymer matrix and optionally coated.

9. An extended release composition according to claim 8 in the form of multiparticulates.

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13. An extended release composition according to anyone of claims 5 to 7 as a transdermal patch.

14. An extended release composition according to claim 13 in the form of a drug-in-adhesive patch.

15. An extended release composition according to claim 13 in the form of a reservoir patch.

16. An extended release composition according to anyone of claims 1 to 15 for use in the treatment of arterial hypertension, Raynaud's disease, morbus Menière, or argininosuccinic aciduria (ASA).