

CLAIMS

1. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1 - carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide, ~~which has at least one property of comprising the following properties:~~

(a) characteristic reflections in an X-ray powder diffractogram using CuK-alpha1 radiation in reflection mode at 2Theta angles (in degree) of 10.4 ± 0.2, 14.9 ± 0.2, 17.5 ± 0.2, 18.0 ± 0.2, 19.4 ± 0.2, 19.7 ± 0.2, 20.0 ± 0.2, 21.0 ± 0.2, 22.3 ± 0.2, 25.0 ± 0.2; ~~and~~

(b) melting point determined by differential scanning calorimetry (DSC) with an onset temperature of 253 ± 1 °C and/or a peak temperature of 257 ± 1 °C (heating rate 10°C/minute); ~~and~~

(c) NMR data comprising of 1H-NMR (400 MHz, DMSO-d6): δ = 11.7 (s, 1 H), 8.40 (d, J = 4.8 Hz, 2 H), 8.34 (m, 2 H), 7.92 (s, 1 H), 7.55 (d, J = 8.5 Hz, 1 H), 7.50 (d, J = 8.5 Hz, 1 H), 7.43-7.10 (m, 9 H), 7.00 (bs, 1 H), 6.77 (t, J = 4.8 Hz, 1 H), 4.80 (m, 1 H), 4.53 (dd, J = 10.0 and 14.4 Hz, 1 H), 4.25 (dd, J = 4.2 and 14.3 Hz, 1 H), 2.96 ppm (bs, 3 H).

2. A pharmaceutical composition comprising polymorph1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1, and one or more pharmaceutically acceptable excipients.

3. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1 for use as a pharmaceutical.

4. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1 for use in the treatment of a disease whose course involves an increased activity of IκB kinase

5. A process for preparing polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1, comprising heating polymorph 2 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide in a mixture of acetone and water to a temperature of 50 to 60 °C, cooling the mixture to 20 to 25 °C and isolating the precipitated solid.

6. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1 for use in the treatment of inflammatory, immunologically or metabolism-mediated and chronic arthritis, arthropaties, rheumatoid arthritis, degenerative joint diseases, spondyloses, diabetes Type II, inflammatory bowel disease, loss of cartilage following joint trauma or a relatively long period of joint immobilization following meniscus or patella injuries or ligament ruptures, diseases of the connection tissue, myalgias and disturbances of bone metabolism.

7. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1 for use in the treatment of pain including acute pains and chronic pains.

8. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1 for use in the treatment of chronic pain according to claim 7 wherein the chronic pain is selected from chronic musculoskeletal diseases, pains associated with menstrual bleeding, pains associated with osteoarthritis or rheumatoid arthritis, pains associated with intestinal inflammation, pains associated with cardiac muscle inflammation, pains associated with multiple sclerosis, pains associated with neuritis, pains associated with carcinomas and sarcomas, pains associated with AIDS, pains associated with chemotherapy, amputation pain, trigeminus neuralgia, headaches, and neuropathic pains.

CLAIMS

1. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1 - carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide, comprising the following properties:

(a) characteristic reflections in an X-ray powder diffractogram using CuK-alpha1 radiation in reflection mode at 2Theta angles (in degree) of 10.4 ± 0.2 , 14.9 ± 0.2 , 17.5 ± 0.2 , 18.0 ± 0.2 , 19.4 ± 0.2 , 19.7 ± 0.2 , 20.0 ± 0.2 , 21.0 ± 0.2 , 22.3 ± 0.2 , 25.0 ± 0.2 ;

(b) melting point determined by differential scanning calorimetry (DSC) with an onset temperature of 253 ± 1 °C and/or a peak temperature of 257 ± 1 °C (heating rate $10^\circ\text{C}/\text{minute}$); and

(c) NMR data comprising of ^1H -NMR (400 MHz, DMSO- d_6): $\delta = 1.7$ (s, 1 H), 8.40 (d, $J = 4.8$ Hz, 2 H), 8.34 (m, 2 H), 7.92 (s, 1 H), 7.55 (d, $J = 8.5$ Hz, 1 H), 7.50 (d, $J = 8.5$ Hz, 1 H), 7.43-7.10 (m, 9 H), 7.00 (bs, 1 H), 6.77 (t, $J = 4.8$ Hz, 1 H), 4.80 (m, 1 H), 4.53 (dd, $J = 10.0$ and 14.4 Hz, 1 H), 4.25 (dd, $J = 4.2$ and 14.3 Hz, 1 H), 2.96 ppm (bs, 3 H); HPLC (column: Chiralcel OD-H, 250×4.6 mm; eluent: n- heptane : ethanol (50:50), flow rate: 1 ml/min, detection wavelength: 238 nm).

2. A pharmaceutical composition comprising polymorph1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1, and one or more pharmaceutically acceptable excipients.

3. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1 for use as a pharmaceutical.

4. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1 for use in the treatment of a disease whose course involves an increased activity of I κ B kinase

5. A process for preparing polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1, comprising heating polymorph 2 of 2-(2- methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1 -carbamoyl-2-(phenyl- pyrimidin-2-yl-amino)-ethyl]-amide in a mixture of acetone and water to a temperature of 50 to 60 °C, cooling the mixture to 20 to 25 °C and isolating the precipitated solid.

6. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1 for use in the treatment of inflammatory, immunologically or metabolism-mediated and chronic arthritis, arthropaties, rheumatoid arthritis, degenerative joint diseases, spondyloses, diabetes Type II, inflammatory bowel disease, loss of cartilage following joint trauma or a relatively long period of joint immobilization following meniscus or patella injuries or ligament ruptures, diseases of the connection tissue, myalgias and disturbances of bone metabolism.

7. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1 for use in the treatment of pain including acute pains and chronic pains.

8. Polymorph 1 of 2-(2-methylamino-pyrimidin-4-yl)-1H-indole-5-carboxylic acid [(S)-1-carbamoyl-2-(phenyl-pyrimidin-2-yl-amino)-ethyl]-amide according to claim 1 for use in the treatment of chronic pain according to claim 7 wherein the chronic pain is selected from chronic musculoskeletal diseases, pains associated with menstrual bleeding, pains associated with osteoarthritis or rheumatoid arthritis, pains associated with intestinal inflammation, pains associated with cardiac muscle inflammation, pains associated with multiple sclerosis, pains associated with neuritis, pains associated with carcinomas and sarcomas, pains associated with AIDS, pains associated with chemotherapy, amputation pain, trigeminus neuralgia, headaches, and neuropathic pains.