CLAIMS

1. A crystal of monohydrate of 4-((1-methylpyrrol-2-yl)-carbonyl)-N-(4-(4-morpholin-1-yl-carbonylpiperidin-1-yl)-phenyl)-1-piperazinecarboxamide (the Compound (1)) having at least 5 peaks of diffraction angle (2θ±0.2°) selected from 12.8°, 15.0°, 17.2°, 19.8°, 21.5°, 21.8°, 22.5°, 25.8°, and 27.5° in a powder X-ray diffraction spectrum, wherein the chemical purity of the Compound (1) is 95% or more.

2. The crystal according to claim 1, wherein the chemical purity of the Compound (1) is 99% or more.

3. The crystal according to claim 1 or 2, wherein the crystal has an endothermic peak at 170°C±5°C in differential scanning calorimetry analysis.

4. The crystal according to any one of claims 1 to 3, wherein the crystal has 9 peaks of diffraction angle (2θ±0.2°) of 12.8°, 15.0°, 17.2°, 19.8°, 21.5°, 21.8°, 22.5°, 25.8°, and 27.5° in a powder X-ray diffraction spectrum.

~~4. A crystal of monohydrate of 4-((1-methylpyrrol-2-yl)-carbonyl)-N-(4-(4-morpholin-1-yl-carbonylpiperidin-1-yl)-phenyl)-1-piperazinecarboxamide (the Compound (1)), the chemical purity of the Compound (1) being 95% or more, produced by a method using a solvent selected from methanol, ethanol, water and mixed solvents thereof in crystallization.~~

~~5. The crystal according to claim 4, wherein the crystal is produced by a method using a solvent selected from ethanol, water, and mixed solvents thereof in crystallization.~~

~~6. The crystal according to claim 4 or 5, wherein the crystal is produced by a method using a mixed solvent of ethanol and water~~

~~in crystallization.~~

~~7. The crystal according to any one of claims 4 to 6, wherein the crystal has at least 5 peaks of diffraction angle (2θ±0.2°) selected from 12.8°, 15.0°, 17.2°, 19.8°, 21.5°, 21.8°, 22.5°, 25.8°, and 27.5° in a powder X-ray diffraction spectrum.~~

~~8. The crystal according to any one of claims 4 to 7, wherein the crystal has an endothermic peak at 170°C±5°C in differential scanning calorimetry analysis.~~

~~9~~5. A pharmaceutical composition comprising the crystal according to any one of claims 1 to ~~8~~4.

~~10~~6. A method for producing a crystal of monohydrate of 4-((1-methylpyrrol-2-yl)-carbonyl)-N-(4-(4-morpholin-1-yl-carbonylpiperidin-1-yl)-phenyl)-1-piperazinecarboxamide (the Compound (1)), the chemical purity of the Compound (1) being 95% or more, the method using a solvent selected from methanol, ethanol, water and mixed solvents thereof in crystallization.

~~11~~7. The method according to claim ~~10~~6, wherein the method uses a solvent selected from ethanol, water, and mixed solvents thereof in crystallization.

~~12~~8. The method according to claim ~~10~~ 6 or ~~11~~7, wherein the method uses a mixed solvent of ethanol and water in crystallization.

~~13~~9. The method according to ~~any one of claims 10 to 12~~claim 6 or 7, wherein the method is a method for producing a crystal having at least 5 peaks of diffraction angle (2θ±0.2°) selected from 12.8°, 15.0°, 17.2°, 19.8°, 21.5°, 21.8°, 22.5°, 25.8°, and 27.5° in a powder X-ray diffraction spectrum.

10. The method according to claim 6 or 7, wherein the method is a method for producing a crystal having 9 peaks of diffraction angle (2θ±0.2°) of 12.8°, 15.0°, 17.2°, 19.8°, 21.5°, 21.8°, 22.5°, 25.8°, and 27.5° in a powder X-ray diffraction spectrum.

~~14~~11. The method according to any one of claims ~~10~~ 6 to ~~13~~10, wherein the method is a method for producing a crystal having an endothermic peak at 170°C±5°C in differential scanning calorimetry analysis.