CLAIMS

~~[Claim 1]~~

~~A controlled release oral solid pharmaceutical composition comprising a salt of 7-[4-(4-benzo[b]thiophen-4-yl-piperazin-1-yl)butoxy]-1H-quinolin-2-one as an active ingredient, and further comprising an additive containing an ion in common with the salt.~~

~~[Claim 2]~~

~~The composition according to claim 1, wherein the active ingredient is a fumaric acid salt, a phosphoric acid salt, a hydrochloric acid salt, a sulfuric acid salt, a citric acid salt, or a tartaric acid salt of 7-[4-(4-benzo[b]thiophen-4-yl-piperazin-1-yl)butoxy]-1H-quinolin-2-one.~~

~~[Claim 3]~~

~~The composition according to claim 1, wherein the active ingredient is a fumaric acid salt of 7-[4-(4-benzo[b]thiophen-4-yl-piperazin-1-yl)butoxy]-1H-quinolin-2-one, and the additive containing an ion in common with the salt is at least one member selected from the group consisting of fumaric acid, monosodium fumarate, and disodium fumarate.~~

~~[Claim 4]~~

~~The composition according to any one of claims 1 to 3, further comprising a cellulose-based water-soluble polymer.~~

~~[Claim 5]~~

~~The composition according to claim 4, wherein the cellulose-based water-soluble polymer is at least one member selected from the group consisting of hydroxypropyl methylcellulose, hydroxypropyl cellulose, and methyl cellulose.~~

~~[Claim 6]~~

~~The composition according to any one of claims 1 to 5, which is an osmotic pump composition.~~

~~[Claim 7]~~

~~The composition according to claim 6, wherein the osmotic pump composition comprises a drug layer comprising a cellulose-based water-soluble polymer.~~

~~[Claim 8]~~

~~The composition according to claim 7, wherein the cellulose-based water-soluble polymer is hydroxypropyl methyl cellulose.~~

~~[Claim 9]~~

~~The composition according to any one of claims 1 to 5, which is a hydrogel sustained release formulation.~~

~~[Claim 10]~~

~~The composition according to claim 9 comprising an enteric coating.~~

~~[Claim 11]~~

~~The composition according to any one of claims 1 to 10, which contains 5 mg to 60 mg of the active ingredient in terms of the weight of 7-[4-(4-benzo[b]thiophen-4-yl-piperazin-1-yl)butoxy]-1H-quinolin-2-one.~~

~~[Claim 12]~~

~~The composition according to any one of claims 1 to 11, wherein the blood concentration of 7-[4-(4-benzo[b]thiophen-4-ylpiperazin-1-yl)butoxy]-1H-quinolin-2-one in a steady state when orally administered to a human is maintained in the range of 15 ng/mL to 400 ng/mL for 1 week.~~

~~[Claim 13]~~

~~The composition according to any one of claims 1 to 12, which is for use in administering a salt of 7-[4-(4-benzo[b]thiophen-4-yl-piperazin-1-yl)butoxy]-1H-quinolin-2-one once a week at a dose of 5 mg to 60 mg in terms of the weight of the free base.~~

~~[Claim 14]~~

~~The composition according to any one of claims 1 to 13, which is for use in preventing or treating a central nervous system (CNS) disease.~~

~~[Claim 15]~~

~~The composition according to claim 14, wherein the composition is for preventing or treating a CNS disease selected from the group consisting of schizophrenia; treatment-resistant, refractory, or chronic schizophrenia; emotional disturbance; psychotic disorder; mood disorder; bipolar disorder; depression, endogenous depression; major depression; melancholic and treatment-resistant depression; dysthymic disorder; cyclothymic disorder; anxiety disorder; somatoform disorder; factitious disorder; dissociative disorder; sexual disorder; eating disorder; sleep disorder; adjustment disorder; substance-related disorder; anhedonia; delirium; cognitive impairment; cognitive impairment associated with neurodegenerative disease; cognitive impairment caused by neurodegenerative disease; cognitive impairment of schizophrenia; cognitive impairment caused by treatment-resistant, refractory, or chronic schizophrenia; vomiting; motion sickness; obesity; migraine; pain; mental retardation; autism disorder; Tourette's disorder; tic disorder; attention deficit hyperactivity disorder; conduct disorder; Down syndrome; impulsive symptoms associated with dementia; and borderline personality disorder.~~

[Claim 1]

A controlled release oral solid pharmaceutical composition comprising a salt of 7-[4-(4-benzo[b]thiophen-4-yl-

piperazin-1-yl)butoxy]-1H-quinolin-2-one as an active ingredient, and further comprising an additive containing an ion in common with the salt.

[Claim 2]

The composition according to claim 1, wherein the active ingredient is a fumaric acid salt, a phosphoric acid salt, a hydrochloric acid salt, a sulfuric acid salt, a citric acid salt, or a tartaric acid salt of 7-[4-(4-benzo[b]thiophen-4-yl-piperazin-1-yl)butoxy]-1H-quinolin-2-one.

[Claim 3]

The composition according to claim 1, wherein the active ingredient is a fumaric acid salt of 7-[4-(4-benzo[b]thiophen-4-yl-piperazin-1-yl)butoxy]-1H-quinolin-2-one, and the additive containing an ion in common with the salt is at least one member selected from the group consisting of fumaric acid, monosodium fumarate, and disodium fumarate.

[Claim 4]

The composition according to any one of claims 1 to 3, further comprising a cellulose-based water-soluble polymer.

[Claim 5]

The composition according to claim 4, wherein the cellulose-based water-soluble polymer is at least one member selected from the group consisting of hydroxypropyl methylcellulose, hydroxypropyl cellulose, and methyl cellulose.

[Claim 6]

The composition according to any one of claims 1 to 5, which is an osmotic pump composition.

[Claim 7]

The composition according to claim 6, wherein the

osmotic pump composition comprises a drug layer comprising a cellulose-based water-soluble polymer.

[Claim 8]

The composition according to claim 7, wherein the cellulose-based water-soluble polymer is hydroxypropyl methyl cellulose.

[Claim 9]

The composition according to any one of claims 1 to 5, which is a hydrogel sustained release formulation.

[Claim 10]

The composition according to claim 9 comprising an enteric coating.

[Claim 11]

The composition according to any one of claims 1 to 10, which contains 5 mg to 60 mg of the active ingredient in terms of the weight of 7-[4-(4-benzo[b]thiophen-4-yl-piperazin-1-yl)butoxy]-1H-quinolin-2-one.

[Claim 12]

The composition according to any one of claims 1 to 11, wherein the blood concentration of 7-[4-(4-benzo[b]thiophen-4-ylpiperazin-1-yl)butoxy]-1H-quinolin-2-one in a steady state when orally administered to a human is maintained in the range of 15 ng/mL to 400 ng/mL for 1 week.

[Claim 13]

The composition according to any one of claims 1 to 12, which is for use in administering a salt of 7-[4-(4-benzo[b]thiophen-4-yl-piperazin-1-yl)butoxy]-1H-quinolin-2-one once a week at a dose of 5 mg to 60 mg in terms of the weight of the free base.

[Claim 14]

The composition according to any one of claims 1 to 13, which is for use in preventing or treating a central nervous system (CNS) disease.

[Claim 15]

The composition according to claim 14, wherein the composition is for preventing or treating a CNS disease selected from the group consisting of schizophrenia; treatment-resistant, refractory, or chronic schizophrenia; emotional disturbance; psychotic disorder; mood disorder; bipolar disorder; depression, endogenous depression; major depression; melancholic and treatment-resistant depression; dysthymic disorder; cyclothymic disorder; anxiety disorder; somatoform disorder; factitious disorder; dissociative disorder; sexual disorder; eating disorder; sleep disorder; adjustment disorder; substance-related disorder; anhedonia; delirium; cognitive impairment; cognitive impairment associated with neurodegenerative disease; cognitive impairment caused by neurodegenerative disease; cognitive impairment of schizophrenia; cognitive impairment caused by treatment-resistant, refractory, or chronic schizophrenia; vomiting; motion sickness; obesity; migraine; pain; mental retardation; autism disorder; Tourette’s disorder; tic disorder; attention deficit hyperactivity disorder; conduct disorder; Down syndrome; impulsive symptoms associated with dementia; and borderline personality disorder.

[Claim 16]

The composition according to any one of claims 1 to 15, wherein the composition comprises a hydrate of the salt of 7-[4-(4-benzo[b]thiophen-4-yl-piperazin-1-yl)butoxy]-1H-quinolin-2-one as an active ingredient.