**What is claimed is:**

1. A method of treating a disease in a subject in need thereof, comprising administering to the subject an effective amount of 5-O-desmethyl-omeprazole or a therapeutically acceptable salt, solvate, or stereoisomer thereof, or a pharmaceutical composition containing 5-O-desmethyl-omeprazole, wherein the disease is selected from the group consisting of schizophrenia, schizoaffective disorder, mild cognitive impairment, Tourette Syndrome, ataxia, PTSD, dementia, loss of memory and/or cognition associated with neurodegenerative diseases, and loss of neuronal function characteristic of neurodegenerative diseases.

2. The method of Claim 1, wherein the effective amount of 5-O-desmethyl-omeprazole is 2 mg/kg body weight to 5 g/kg body weight.

3. The method of Claim 1, wherein the disease is treated via DAAO inhibition.

4. The method of Claim 1, wherein the schizophrenia and schizoaffective disorder include negative, cognitive, positive and general psychopathology symptom domains.

5. The method of Claim 1, wherein the disease is mild cognitive impairment or schizophrenia.

6. The method of Claim 1, wherein the disease is ataxia.

7. The method of Claim 1, wherein the disease is schizoaffective disorder.

8. The method of Claim 1, wherein the disease is Tourette Syndrome.

9. The method of Claim 1, wherein the disease is PTSD.

10. The method of Claim 1, wherein the disease is dementia, loss of memory and/or cognition associated with neurodegenerative diseases or loss of neuronal function characteristic of neurodegenerative diseases.

11. The method of Claim 1, wherein the subject is a human.

12. The method of Claim 1, wherein the pharmaceutical composition comprises a pharmaceutical acceptable carrier and/or an excipient.

13. The method of Claim 1, wherein the 5-O-desmethyl-omeprazole or a therapeutically acceptable salt, solvate, or stereoisomer thereof or the pharmaceutical composition is administered to the subject orally, parenterally, intravenously, intramuscularly, intraperitoneally, intrasternally, subcutaneously, intramedullary, intraarticularly, intraduodenally, or transdermally.