solving problems, and/or depression. MS not only wrests control of your body from you, but also takes your mind, your ability to think and communicate clearly.

[0004] MS is a disease that is partially managed but not cured. While there is currently no cure for MS, there are several therapies that may slow progression of the disease or reduce the frequency of relapse. The goal of treatment is to control symptoms and help maintain quality of life in individuals with MS. Individuals with MS must take several therapies to manage their disease and symptoms. To maintain quality of life some individuals with MS use "disease modifying drugs" (DMDs). It is currently suggested that a diagnosed individual start use of these drugs immediately. DMDs used to slow progression of MS include a variety of immune modulators and immunosuppressants and are taken on a long-term basis. There is some evidence that these drugs lessen severity and frequency of MS attacks as well as reduce accumulation of lesions in the brain, which may slow progression of disease. DMDs therapies have side effects ranging from febrile illness to liver damage, and do not halt disease progression or cure the disease.

[0005] As MS progresses so do the symptoms and the severity of these symptoms. When symptoms are not ameliorated by DMDs, additional medications may be taken to manage these symptoms. Physical symptoms can be partially ameliorated through physical, speech, and psychological therapies, in addition to the battery of drugs specific for the symptoms an individual experiences. Regimens are tailored to individual patients and change over time.

[0006] What is needed in the art is a method of combating cognitive degradation and protecting mental facilities from the ravages of the immune systems attack on neurons. The art also needs a therapy that broadly alleviates the symptoms of MS especially those symptoms related to fatigue, improving quality of life for MS patients overall.

SUMMARY ~~OF THE INVENTION~~

[0007] The present ~~invention~~ disclosure is directed to a method for alleviating a symptom of MS, comprising administering to a subject in need of such treatment an effective amount of apoaequorin.

[0008] Methods according to the ~~invention~~ disclosure are useful in treating a wide variety of symptoms associated with multiple sclerosis, including but not limited to disruptions in sleep quality, energy quality, mood quality, pain, and/or cognitive functioning. In methods, apoaequorin is preferably administered to the subject in the form of a pharmaceutical composition.

In one aspect, there is provided use of an effective amount of apoaequorin in the manufacture of a medicament for alleviating a symptom associated with Multiple Sclerosis in a subject in need of such treatment.

In one aspect, there is provided use of apoaequorin for the manufacture of a pharmaceutical composition for alleviating a symptom associated with Multiple Sclerosis in a subject.

In one aspect, there is provided apoaequorin for use in alleviating a symptom associated with Multiple Sclerosis in a subject.

[0009] Other objects, features and advantages of the present ~~invention~~ disclosure will become apparent after review of the specification and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] Figure 1 is a chart showing the differences of the Multiple Sclerosis Impact Scale (MSIS) scores between the apoaequorin arm and the placebo arm groups.

[0011] Figure 2 is a chart showing the differences of the Physical Health subscale of the Multiple Sclerosis Quality of Life (MSQOL) scores between the apoaequorin arm and the placebo arm groups.

[0012] Figure 3 is a chart showing the differences of the Physical Health subscale of the MSQOL between the apoaequorin and the placebo groups.

[0013] Figure 4 is a chart showing the differences of the Role Limitations-Physical subscale of the MSQOL between the apoaequorin and the placebo groups.

[0014] Figure 5 is a chart showing the differences of the Role Limitations-Emotional subscale of the MSQOL between the apoaequorin and the placebo groups.

[0015] Figure 6 is a chart showing the differences of the Pain subscale of the MSQOL between the apoaequorin and the placebo groups.

[0016] Figure 7 is a chart showing the differences of the Modified Fatigue Impact Scale (MFIS) composite scores between the apoaequorin and the placebo groups.

[0017] Figure 8 is a chart showing the differences of the MFIS Physical subscale composite scores between the apoaequorin and the placebo groups.

[0018] Figure 9 is a chart showing the differences of the MFIS Cognitive subscale composite scores between the apoaequorin and the placebo groups.

[0019] Figure 10 is a chart showing the differences of the MSQOL Physical Health composite scores between the apoaequorin and the placebo groups.

CLAIMS

What is claimed is:

1. Use of an effective amount of apoaequorin in the manufacture of a medicament ~~A method~~ for alleviating a symptom associated with Multiple Sclerosis~~,~~ ~~comprising administering to~~ in a subject in need of such treatment ~~an effective amount of apoaequorin~~.

2. The ~~method~~ use according to claim 1, wherein the symptom associated with Multiple Sclerosis is sleep-related and administration of apoaequorin to said subject improves sleep quality in the subject.

3. The ~~method~~ use according to claim 1, wherein the symptom associated with Multiple Sclerosis is energy-related and administration of apoaequorin to said subject improves energy quality in the subject.

4. The ~~method~~ use according to claim 1, wherein the symptom associated with Multiple Sclerosis is mood-related and administration of apoaequorin to said subject improves mood quality in the subject.

5. The ~~method~~ use according to claim 1, wherein the symptom associated with Multiple Sclerosis is pain-related and administration of apoaequorin to said subject alleviates pain in the subject.

6. The ~~method~~ use according to claim 1, wherein the symptom associated with Multiple Sclerosis is memory-related and administration of apoaequorin to said subject improves memory quality in the subject.

7. The ~~method~~ use according to any one of claims 1-6, wherein apoaequorin is to be administered to said subject in the form of a pharmaceutical composition comprising the effective amount of apoaequorin and a carrier.

8. The ~~method~~ use according to any one of claims 1-6, wherein apoaequorin is to be administered on a daily basis to said subject in the form of an oral dose containing about 10 mg to about 80 mg apoaequorin.

9. The ~~method~~ use according to any one of claims 1-6, wherein the subject has been diagnosed with either Relapsing Remitting Multiple Sclerosis or Secondary Progressive Multiple Sclerosis.

10. The ~~method~~ use of claim 9, wherein the subject is in a Relapsed State.

11. The ~~method~~ use of claim 9, wherein the subject is taking disease-modifying drugs in addition to said method.

12. Use of apoaequorin for the manufacture of a pharmaceutical composition for alleviating a symptom associated with Multiple Sclerosis in a subject.

13. The use according to claim 12, wherein the pharmaceutical composition is formulated as an oral dose comprising the apoaequorin and a carrier.

14. The use according to claim 13, wherein the pharmaceutical composition contains about 10 mg to about 80 mg of apoaequorin.

15. The use according to claim 13, wherein the pharmaceutical contains about 20 mg of apoaequorin.

16. The use according to claim 13, wherein the pharmaceutical contains about 40 mg of apoaequorin.

17. The use according to claim 12, wherein the symptom associated with Multiple Sclerosis is quality of sleep, energy, mood, cognitive function, or pain.

18. Apoaequorin for use in alleviating a symptom associated with Multiple Sclerosis in a subject.

19. The apoaequorin of claim 18, wherein the apoaequorin is formulated as an oral dose comprising the apoaequorin and a carrier.

20. The apoaequorin of claim 19, wherein about 10 mg to about 80 mg of the apoaequorin is contained in said oral dose.

21. The apoaequorin of claim 19, wherein about 20 mg of the apoaequorin is contained in said oral dose.

22. The apoaequorin of claim 19, wherein about 40 mg of the apoaequorin is contained in said oral dose.

23. The apoaequorin of claim 18, wherein the symptom associated with Multiple Sclerosis is quality of sleep, energy, mood, cognitive function, or pain.