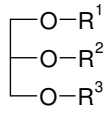
Basic brain functions include vision, memory, learning, imaging, judgment, reading, perception, thinking and creating etc. Different people may have different levels of intellectual quotient (IQ). There is still a lot of undiscovered area about how brain works and the human brain functions are not fully developed. How to further develop the brain functions in human is an underdeveloped area in neuroscience.

## SUMMARY OF THE INVENTION

It is an object of the present disclosure to provide a medicament for the treatment and the prophylaxis of neurological diseases in humans, but also in animals. These diseases include neurodegenerative diseases, optic or retinal degenerative diseases, demyelinating diseases, neuromuscular disorders and muscular dystrophy, brain or spinal cord nerve injury, cranial nerve disorders, or seizures, amyloid deposit related diseases, chronic diseases or conditions selected from the group consisting of kidney diseases, diabetes, asthma and dyspnea.

In one aspect of the disclosure, there is provided the use of a compound of formula (I)



(I)

wherein $R^1$, $R^2$ and $R^3$ are independently selected from H or $-C(O)R^4$, wherein $R^4$ is

- $(C_5\text{-}C_{20})$ alkyl, which is optionally mono-, di- or trisubstituted with OH, $NH_2$, $NHCH_3$, $N(CH_3)_2$, F or Cl; or
- $(C_5\text{-}C_{20})$ alkenyl, bearing 1, 2 or 3 double bonds;

whereby at least one of $R^1$, $R^2$ and $R^3$ is $-C(O)R^4$ with $R^4$ being $(C_6\text{-}C_{20})$ alkyl with an even number of carbon atoms;or a pharmaceutically acceptable salt thereof, for the manufacture of a medicament for the treatment and/or prevention of a retinal degenerative diseassse or an optic nerve degenerative disease.

It is further an object of the present disclosure to provide a functional food or nutrition supplement for humans and animals, e.g. for anti-aging, life-span prolongation or improving brain functions. In another aspect of the disclosure, there is provided the use of

the compound of formula (I) disclosed herein as functional food or food supplement for humans and/ or animals. Moreover, the present disclosure relates to the use of Ophioglossum and/or extracts thereof for the manufacture of a medicament in the treatment and/or prevention of neurodegenerative diseases, optic or retinal degenerative diseases, demyelinating diseases, neuromuscular disorders and muscular dystrophy, brain or spinal cord nerve injury, amyloid related diseases, other chronic diseases or conditions selected from kidney diseases, diabetes, asthma and dyspnea, but also a functional food, e.g. for anti-aging, life-span prolongation and brain function improvement for human.

In yet another aspect, there is provided a use of ophioglossum for the manufacture of a medicament for the treatment and/or prevention of a retinal degenerative disease or an optic degenerative disease.

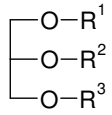
The present disclosure is based on the surprising findings that lipids bearing fatty acids with an odd number of carbon atoms and use of Ophioglossum and/or extracts thereof can be used for treating and/or prevention of diseases and disorders of the central nervous system.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 relates to Example I-1 and shows neuroprotective effects of Compound C (added alone or 48 hours before AβO treatment) based on cell viability evaluated with MTT;

**CLAIMS**

1. Use of a compound of the formula (I)



**(I)**

wherein $R^1$, $R^2$ and $R^3$ are independently selected from H or -C(O)$R^4$, wherein $R^4$ is

- ($C_5$-$C_{20}$) alkyl, which is optionally mono-, di- or trisubstituted with OH, $NH_2$, $NHCH_3$, $N(CH_3)_2$, F or Cl; or
- ($C_5$-$C_{20}$) alkenyl, bearing 1, 2 or 3 double bonds;

whereby at least one of $R^1$, $R^2$ and $R^3$ is -C(O)$R^4$ with $R^4$ being ($C_6$-$C_{20}$) alkyl with an even number of carbon atoms;

or a pharmaceutically acceptable salt thereof, for the manufacture of a medicament for the treatment and/or prevention of a retinal degenerative disease or an optic nerve degenerative disease.

2. The use of the compound of the formula (I) according to claim 1 , wherein $R^1$, $R^2$ and $R^3$ are independently selected from -C(O)$R^4$ with $R^4$ being ($C_6$-$C_{20}$) alkyl with an even number of carbon atoms.

3. The use of the compound according to claim 1 or 2, wherein $R^1$, $R^2$ and $R^3$ are independently of each other -C(O)$R^4$ with $R^4$ being $C_{12}$-alkyl, $C_{14}$-alkyl, $C_{16}$-alkyl, $C_{18}$-alkyl or $C_{20}$-alkyl.

4. The use of the compound of the formula (I) according to claim 1, wherein one or two of $R^1$, $R^2$ and $R^3$ is/are H and the other(s) is/are -C(O)$R^4$ with $R^4$ being $C_{12}$-alkyl, $C_{14}$-alkyl, $C_{16}$-alkyl, $C_{18}$-alkyl or $C_{20}$-alkyl.

5. The use of the compound of the formula (I) according to any one of claims 1 to 3, wherein $R^1$, $R^2$, and $R^3$ are -C(O)$R^4$ with $R^4$ being $C_{14}$-alkyl.

6. The use of the compound of the formula (I) according to claim 1 or 4, wherein one of $R^1$, $R^2$ and $R^3$ is H and the others are -C(O)$C_{14}$-alkyl.

7. The use of the compound of the formula (I) according to claim 1 or 4, wherein two of $R^1$, $R^2$ and $R^3$ are H and the third one is -C(O)$C_{14}$-alkyl.

8. The use of the compound of the formula (I) according to any one of claims 1 to 7, wherein the retinal degenerative disease or an optic nerve degenerative disease, is selected from the group consisting of optic atrophy, Leber's hereditary optic neuropathy (LHON), Dominant Optic Atrophy (DOA), age-related macular degeneration, glaucoma and retinitis pigmentosa.

9. The use of the compound of the formula (I) according to any one of claims 1 to 7, wherein the optic nerve degenerative disease is optic neuritis.

10. The use of the compound of the formula (I) according to any one of claims 1 to 7, wherein the compound is contained in a dosage from 1 mg/day to 1000 mg/day.

11. Use of ophioglossum for the manufacture of a medicament for the treatment and/or prevention of a retinal degenerative disease or an optic degenerative disease.

12. The use according to claim 11, wherein tripentadecanoin is contained in ophioglossum in an amount of 1 mg/day to 1000 mg/day.

13. The use according to claim 11 or 12, wherein the retinal degenerative disease or an optic nerve degenerative disease, is selected from the group consisting of optic atrophy, Leber's hereditary optic neuropathy (LHON), Dominant Optic Atrophy (DOA), age-related macular degeneration, glaucoma and retinitis pigmentosa

14. The use according to claim 11 or 12, wherein the optic nerve degenerative disease is optic neuritis.