Claims

1. Use of a composition comprising, as an active ingredient, a compound represented by general formula I or a salt, hydrate, or solvate thereof:

General formula I: S-(MS)p-(MS)q

wherein S is sialic acid; and (MS)p and (MS)q each are independently a monosaccharide residue in the manufacture of a medicament for preventing or treating a disease or symptom associated with a decrease in peroxisome proliferator-activated receptor coactivator 1-alpha (PGC-1α) expression,
wherein the disease or symptom associated with a decrease in PGC-1α expression comprises Parkinson's disease (PD), Huntington's disease (HD), and sarcopenia.

2. The use of claim 1, wherein the compound is α-NeuNAc-(2→6)-β-D-Gal-(1→4)-D-Glc.

3. The use of claim 1, wherein the medicament is in a dosage form selected from the group consisting of solutions, suspensions, syrups, emulsions, liposomes, powders, granules, tablets, sustained-release preparations, and capsules.

4. The use of claim 3, wherein the medicament is to be administered orally, and is in a dosage form of a drug delivery system comprising liposomes or a sustained-release preparation.

5. The use of claim 3, wherein the medicament is to be administered parenterally, and is in a dosage form of a drug delivery system comprising liposomes and an ultrasound contrast agent or a sustained-release preparation.

6. The use of claim 1, wherein the salt is a pharmaceutically, cosmetically, or sitologically acceptable salt.

7. The use of claim 1, wherein the medicament is incorporated in a sitological, cosmetical, or pharmaceutical delivery system or sustained-release system comprises liposomes, mixed liposomes, oleosomes, niosomes, ethosomes, millicapsules, microcapsules, nanocapsules, nanostructured lipid media, sponges, cyclodextrins, vesicles, micelles, mixed micelles of surfactants, surfactant-phospholipid mixed micelles, millispheres, microspheres, nanospheres, lipospheres, microemulsions, nanoemulsions, miniparticles, milliparticles, microparticles, nanoparticles, or solid lipid nanoparticles.

8. The use of claim 7, wherein the medicament is to be applied topically, orally, or as a parenteral application.

9. The use of claim 8, wherein the topical application is performed by iontophoresis,

ultrasonophoresis, electroporation, mechanical pressure, osmotic pressure gradient, occlusive cure, microinjection, needless injection by pressure, use of micro-electro-patches, use of face masks, or any combination thereof.

10. The use of claim 1, wherein the medicament increases PGC-1α expression.

11. The use of claim 1, wherein the medicament is to be administered to reduce, delay and/or prevent symptoms of aging and/or photoaging.

12. The use of any one of claims 6-11, wherein general formula I, a mixture thereof, and/or a sitologically, cosmetically, or pharmaceutically acceptable salt thereof is confirmed in a state of being adsorbed on a sitologically, cosmetically, or pharmaceutically acceptable solid organic polymer or solid mineral support, which is formed by talc, bentonite, silica, starch, and maltodextrin.

13. A composition comprising, as an active ingredient, a compound represented by general formula I or a salt, hydrate, or solvate thereof:

General formula I: S-(MS)p-(MS)q

wherein S is sialic acid; and (MS)p and (MS)q each are independently a monosaccharide residue for use in preventing or treating a disease or symptom associated with a decrease in peroxisome proliferator-activated receptor coactivator 1-alpha (PGC-1α) expression, the composition, wherein the disease or symptom associated with a decrease in PGC-1α expression comprises Parkinson's disease (PD), Huntington's disease (HD), and sarcopenia.