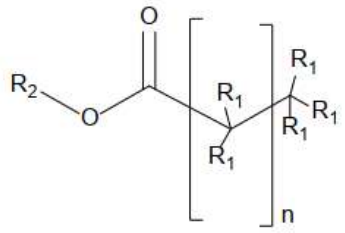
CLAIMS

1. Use of a biocompatible formulation comprising one or more iodinated fatty acids having 16 to 18 carbon atoms and/or esters thereof according to general formula I:

Formula I



wherein n = 14-16;

R_1 is H or I, with the provisions that the number of iodine atoms is 1 to 6, and that the iodine atoms are neither geminal nor vicinal;

and where R_2 is H, unsaturated or saturated, linear or branched alkyls, alkyls, alkoxyalkyl, hydroxyalkoxyalkyl, polyhydroxyalkyl, hydroxy poly alkyleneoxyalkyl in the preparation of a diagnostic peroral contrast agent for use in a method of diagnosing cachexia or precachexia in a subject,

the method comprising generating a Computed Tomography (CT) scan by *in vivo* imaging with Computed Tomography of beige and/or brown adipose tissue (BAT) in the subject;

wherein the subject has been administered with the diagnostic peroral contrast agent; and

wherein cachexia or precachexia is diagnosed when positive or increased enhancement of BAT and/ or beige adipose tissue is established, or when white adipose tissue (WAT) browning and/ or BAT activity is detected, from a comparison of the CT scan with a normal subject.

2. The use according to claim 1, wherein the diagnostic peroral contrast agent is

adapted for non-invasive *in vivo* imaging, quantification, and/or monitoring of the activity of the beige and/or brown adipose tissue (BAT) in said subject.

3. The use according to any of claims 1-2, wherein the *in vivo* imaging with Computed Tomography is performed by PET-CT imaging.

4. The use according to any of claims 1-3,wherein the biocompatible formulation is an ethiodized oil formulation.

5. The use according to any of claims 1-4,wherein the biocompatible formulation is an emulsion.

6. The use according to claim 5, wherein the emulsion is a nano-emulsion.

7. The use according to claim 6, wherein the diagnostic peroral contrast agent consists of a biocompatible nano-emulsion comprising one or more iodinated fatty acids having 16 to 18 carbon atoms according to general formula I.

8. The use according to any of claims 6-7, wherein the iodinated fatty acid is an iodinated linolenic acid.

9. The use according to any of claims 6-8, wherein the nano-emulsion comprises biocompatible emulsifiers selected among lecithin, polyethylene glycol ethers with fatty alcohols, polysorbates and sorbitan esters or their mixtures.

10. The use according to claim 9, wherein the amount of said biocompatible emulsifiers in the nano-emulsion is between 5 – 30 %(w/w) of the total nano-emulsion.

11. The use according to any of claims 1-10, wherein the diagnostic peroral CT contrast agent is to be administered to said subject at a dose corresponding to between 0.005 and 1.6 mg of iodine per gram of body weight.