CLAIMS

1. A non-therapeutic method for reducing the bioavailability of ingested fat from foodstuff in a subject, the method comprising:

administering an amount of a nanobiopolymer, or combinations of nanobiopolymers, sufficient to reduce the bioavailability of ingested fat to a subject,

wherein the nanobiopolymer is selected from the group consisting of cellulose nanofibers, cellulose nanocrystals and combinations thereof,

wherein, when the nanobiopolymer is cellulose nanofibers, the nanobiopolymer comprises fibrillar nanocellulose made by mechanical milling and having an aspect ratio of length to diameter greater than one and having a diameter ranging from 1 nm up to 100 nm; and

wherein, when the nanobiopolymer is cellulose nanocrystals, the cellulose nanocrystals comprise nanocrystalline cellulose made by chemical means and the nanocrystalline cellulose ranges in diameter from 1 nm to 250 nm, and

further wherein the bioavailability of the ingested fat is reduced by at least 30%.

2. The method of claim 1, wherein the nanobiopolymer is incorporated into the foodstuff; is administered separately from the foodstuff; or is incorporated into the foodstuff and is administered separately from the foodstuff.

3. The method of claim 1, wherein the amount of the nanobiopolymer sufficient to reduce the bioavailability of ingested fat from foodstuff is from 0.75% to 1.5% by weight of the foodstuff.

4. The method of claim 1, wherein the bioavailability of ingested fat is reduced by at least 50%.

5. The method of claim 1, wherein the fat comprises triglycerides.

6. The method of claim 1, wherein the bioavailability of ingested fat is reduced by a reduction in translocation, in the subject’s intestinal epithelium, of free fatty acids from triglycerides.

7. The method of claim 1, wherein the bioavailability of ingested fat is reduced by modulating pancreatic lipase activity.

8. The method of claim 1, wherein the bioavailability of ingested fat is reduced by inhibiting the hydrolysis of triglycerides.

9. The method of claim 1, wherein the fibrillar nanocellulose ranges in fiber diameter from 15 nm to 100 nm.

10. The method of claim 1, wherein the subject is a human subject.