CLAIMS

1. Use of a composition for the manufacture of a medicament for treatment or prevention of respiratory illness in an individual, the composition comprising:

approximately 0.5 g to approximately 10g of R-beta-hydroxybutyrate, wherein the R-beta-hydroxybutyrate comprises at least one R-beta-hydroxybutyrate salt,

wherein the composition is to be orally administered to the individual in a pharmaceutically effective amount.

2. The use according to claim 1, wherein the composition comprises less than approximately 2 g of R-beta-hydroxybutyrate.

3. The use according to claim 1, wherein the approximately 0.5 g to approximately 10g of R-beta-hydroxybutyrate comprises at least approximately 90% R-beta-hydroxybutyrate and less than approximately 10% L-beta-hydroxybutyrate.

4. The use according to claim 1, wherein the R-beta-hydroxybutyrate comprises at least one beta-hydroxybutyrate salt and at least one beta-hydroxybutyrate polymer.

5. The use according to claim 1, wherein the 0.5 to 10 g of R-beta hydroxybutyrate comprises an R-beta-hydroxybutyrate-complex.

6. The use according to claim 1, the composition further including at least one additional compound, and wherein at least one of the additional compounds comprises at least one of:

a short chain fatty acid,
an ester of short chain fatty acid,
a medium chain fatty acid,
an ester of medium chain fatty acid,
a long chain fatty acid, or
an ester of long chain fatty acid.

7. The use according to claim 1, the composition further comprising approximately 1 g to approximately 20 g of at least one or more medium chain fatty acids and/or one or more medium chain fatty acid esters.

8. The use according to claim 1, the composition further comprising a C8 fatty acid.

9. The use according to claim 1, the composition further comprising at least one of a flavoring, a vitamin, a mineral, or liquid carrier.

10. The use according to claim 1, the composition further comprising at least one amino acid.

11. The use according to claim 1, wherein administration of the pharmaceutically effective amount of the R-beta-hydroxybutyrate increases strength and mental acuity in the individual with the respiratory illness.

12. The use according to claim 1, wherein the respiratory illnesses is COVID-19.

13. The use according to claim 1, wherein at least one of the respiratory illnesses comprises COVID-19, and wherein administration of the pharmaceutically effective amount of the R-beta-hydroxybutyrate reduces or inhibits long term symptoms of COVID-19.

14. The use according to claim 1, wherein administration of the composition decreases at least one of the number of symptoms or the severity of the symptoms of the respiratory illness.

15. Use of a composition for the manufacture of a medicament for improving lung function in an individual with a respiratory illness, the composition comprising:

approximately 0.5 g to approximately 15 g of R-beta-hydroxybutyrate, wherein the

R-beta-hydroxybutyrate comprises at least one R-beta-hydroxybutyrate salts,

wherein the composition is to be orally administered to the individual in a pharmaceutically effective amount.

16. The use according to claim 15, wherein the composition comprises less than approximately 2 g of beta-hydroxybutyrate.

17. The use according to claim 15, wherein the approximately 0.5 g to approximately 10 g of beta-hydroxybutyrate comprises at least approximately 90% R-beta-hydroxybutyrate and less than approximately 10% L-beta-hydroxybutyrate.

18. Use of a composition for the manufacture of a medicament for the treatment or prevention of respiratory illness in an individual, the composition comprising:

approximately 0.5 g to approximately 10 g of one or more beta-hydroxybutyrate salts,

wherein the composition is to be orally administered to the individual in a pharmaceutically effective amount.

19. The use according to claim 18, wherein the composition further comprises at least one beta-hydroxybutyrate polymer.

20. The use according to claim 18, wherein the composition further comprises at least one amino acid.