Claims:

1. Leucine, acetyl-leucine, or a pharmaceutically acceptable salt thereof for use in a method of treating restless legs syndrome (RLS) or one or more symptoms associated with RLS in a subject in need thereof.

2. Leucine, acetyl-leucine, or a pharmaceutically acceptable salt thereof for use in a method according to claim 1, wherein the RLS is primary RLS.

3. Leucine, acetyl-leucine, or a pharmaceutically acceptable salt thereof for use in a method accoridng to claim 1, wherein the RLS is secondary RLS.

4. Leucine, acetyl-leucine, or a pharmaceutically acceptable salt thereof for use in a method according to claim 1, wherein the method comprises administering to the subject a therapeutically effective amount of the leucine, acetyl-leucine, or pharmaceutically acceptable salt thereof.

5. Leucine, acetyl-leucine, or a pharmaceutically acceptable salt thereof for use in a method according to claim 4, wherein the adminstration occurs over time and the subject's International Restless Leg Syndrome Rating Scale (IRLS) is reduced by at least 10% after the adminstration compared to a baseline.

6. Leucine, acetyl-leucine, or a pharmaceutically acceptable salt thereof for use in a method according to claim 5, wherein the subject's International Restless Leg Syndrome Rating Scale (IRLS) is reduced by at least 50% after the adminstration compared to the baseline.

7. Leucine, acetyl-leucine, or a pharmaceutically acceptable salt thereof, for use in a method according to any of claims 1-6, wherein the leucine is DL-leucine or the acetyl-leucine is acetyl-DL-leucine.

8. Leucine, acetyl-leucine, or a pharmaceutically acceptable salt thereof, for use in a method according to any of claims 1-6, wherein the leucine or acetyl-leucine has an enantiomeric excess of the L-enantiomer or the D-enantiomer.

9. Leucine, acetyl-leucine, or a pharmaceutically acceptable salt thereof, for use in a method according to any of claims 1-8, wherein the method comprises administering the acetyl-leucine to the subject in need thereof at a therapeutically effective amount of from about 1 g to about 15 g per day, from about 1 g to about 10 g per day, from about 1.5 g to about 7 g per day, from about 4 g to about 6 g per day, or from about 4 g to about 5 g per day.

10. A method of diminshing, inhibiting, or eliminating one or more symptoms of restless legs syndrome (RLS) in a subject in need thereof, comprising administering a therapeutically effective amount of leucine, acetyl-leucine, or a pharmaceutically acceptable salt thereof to the subject.

11. The method of claim 10, wherein the one or more symptoms are chosen from lower leg sensations, periodic leg movements of sleep, unpleasant leg sensations, urge to move, restlessness, daytime sleepiness, and sleep disturbances.

12. The method according to claim 10 or 11, wherein the leucine is DL-leucine or the acetyl-leucine is acetyl-DL-leucine.

13. The method according to claim 10 or 11, wherein the leucine or acetyl-leucine has an enantiomeric excess of the L-enantiomer or the D-enantiomer.

14. The method according to any of claims 10-13, wherein the therapeutically effective amount of from about 1 g to about 15 g per day, from about 1 g to about 10 g per day, from about 1.5 g to about 7 g per day, from about 4 g to about 6 g per day, or from about 4 g to about 5 g per day.