CLAIMS

1. A composition when used to promote muscle synthesis and inhibit muscle protein degradation in a subject right after exercise, excluding use in medical practice toward humans, comprising a milk protein mixture containing casein protein and whey protein as an effective ingredient, wherein the composition has a protein content ratio of casein protein to whey protein (casein protein/whey protein) of 2 to 6,

wherein the composition is in liquid form and the milk protein mixture in the composition is 4.1 to 19.1456 g/100 ml as total protein weight, and

wherein the milk protein mixture is ingested so that the total amount of protein for one meal is 0.13 to 0.7 g/kg body weight.

2. The composition according to Claim 1, the composition being a unit packaging form for one meal, wherein the unit packaging form contains the milk protein mixture in which the total amount of protein is adjusted to 8 to 40 g as the intake amount for one meal.

3. The composition according to Claim 2, wherein the exercise is muscle training.

4. The composition according to any one of claims 1 to 3, the composition being a food and drink product, wherein the product is in a unit packaging form for one meal.

5 The composition according to any one of claims 1 to 4, the composition being a milk beverage packed in a container, wherein the content of the milk fat is 8 g/200 ml or less.

6. A method of producing the milk beverage according to claim 5, the method comprising:

blending a milk protein mixture containing casein protein and whey protein with one or more kinds of materials selected from the group consisting of raw milk, pasteurized milk, concentrated milk,

powdered milk and reconstituted milk to obtain a blend, and

sterilizing the blend with heat.

7. A method of promoting muscle synthesis and inhibiting muscle protein degradation, excluding medical practice toward humans, comprising providing a composition comprising milk protein mixture containing casein protein and whey protein at a protein content ratio of casein protein to whey protein (casein protein/whey protein) of 2 to 6 to be ingested by a subject right after exercise,

wherein the composition is in liquid form and the milk protein mixture in the composition is 4.1 to 19.1456 g/100 ml as total protein weight, and

wherein the milk protein mixture is ingested so that the total amount of protein for one meal is 0.13 to 0.7 g/kg body weight.

8. The method according to Claim 7, wherein the milk protein mixture is ingested so that the total amount of protein for one meal is 8 to 40 g.

9. The method according to Claim 7 or 8, wherein the exercise is muscle training.