WHAT IS CLAIMED IS:

1. Use of a nutritional composition in the manufacture of a medicament for the treatment of muscle atrophy and/or the promotion of muscle regeneration in a subject at risk of muscle atrophy, wherein the nutritional composition comprises at least one of protein, fat and carbohydrate, and bovine milk-isolated exosomes comprising intact exosomes.

2. The use of claim 1, wherein greater than 90% of the bovine milk-isolated exosomes are from about 10 nanometers to about 250 nanometers in diameter.

3. The use of claim 1 or 2, wherein the nutritional composition comprises from about 0.001 to about 10 wt % of the bovine milk-isolated exosomes, based on the weight of the nutritional composition.

4. The use of any one of claims 1-3, wherein the subject is a human adult over 40 years of age.

5. The use of any one of claims 1-4, wherein the subject suffers from malnutrition, acquired immune deficiency syndrome (AIDS), cancer, diabetes, chronic obstructive pulmonary disease (COPD), amyotrophic lateral sclerosis (ALS), non-alcoholic fatty liver disease (NAFLD), or a burn injury, or has undergone clinical corticosteroid treatment.

6. The use of any one of claims 1-5, for decreasing muscle atrophy.

7. The use of any one claims 1-6, for promoting muscle regeneration.

8. The use of any one claims 1-7, wherein the nutritional composition comprises protein.

9. The use of claim 8, wherein the nutritional composition further comprises fat and carbohydrate.

10. The use of any one of claims 1-9, wherein the nutritional composition comprises at least one protein selected from whole egg powder, egg yolk powder, egg white powder, whey protein, whey protein concentrates, whey protein isolates, whey protein hydrolysates, acid caseins,

casein protein isolates, sodium caseinates, calcium caseinates, potassium caseinates, casein hydrolysates, milk protein concentrates, milk protein isolates, milk protein hydrolysates, nonfat dry milk, condensed skim milk, whole cow's milk, partially or completely defatted milk, coconut milk, soy protein concentrates, soy protein isolates, soy protein hydrolysates, pea protein concentrates, pea protein isolates, pea protein hydrolysates, rice protein concentrate, rice protein isolate, rice protein hydrolysate, fava bean protein concentrate, fava bean protein isolate, fava bean protein hydrolysate, collagen proteins, collagen protein isolates, meat proteins, potato proteins, chickpea proteins, canola proteins, mung proteins, quinoa proteins, amaranth proteins, chia proteins, hemp proteins, flax seed proteins, earthworm proteins, insect proteins, and combinations of two of more thereof.

11. The use of any one of claims 1-10, wherein the nutritional composition comprises at least one fat selected from algal oil, canola oil, flaxseed oil, borage oil, safflower oil, high oleic safflower oil, high gamma-linolenic acid (GLA) safflower oil, corn oil, soy oil, sunflower oil, high oleic sunflower oil, cottonseed oil, coconut oil, fractionated coconut oil, medium chain triglycerides (MCT) oil, palm oil, palm kernel oil, palm olein, long chain polyunsaturated fatty acids, and combinations of two of more thereof.

12. The use of any one of claims 1-11, wherein the nutritional composition comprises at least one carbohydrate selected from maltodextrin, hydrolyzed starch, modified starch, hydrolyzed cornstarch, modified cornstarch, polydextrose, dextrins, corn syrup, corn syrup solids, rice maltodextrin, brown rice mild powder, brown rice syrup, sucrose, glucose, fructose, lactose, high fructose corn syrup, honey, maltitol, erythritol, sorbitol, isomaltulose, sucromalt, pullulan, potato starch, corn starch, fructooligosaccharides, galactooligosaccharides, oat fiber, soy fiber, gum arabic, sodium carboxymethylcellulose, methylcellulose, guar gum, gellan gum, locust bean gum, konjac flour, hydroxypropyl methylcellulose, tragacanth gum, karaya gum, gum acacia, chitosan, arabinoglactins, glucomannan, xanthan gum, alginate, pectin, low methoxy pectin, high methoxy pectin, cereal beta-glucans, carrageenan, psyllium, fiber, fruit puree, vegetable puree, isomalto-oligosaccharides, monosaccharides, disaccharides, tapioca-derived carbohydrates, inulin, and artificial sweeteners, and combinations of two of more thereof.

13. The use of any one of claims 1-12, wherein the nutritional composition comprises from about 1 wt% to about 30 wt%, from about 1 wt% to about 25 wt%, from about 1 to about 20

wt%, from about 1 to about 15 wt%, from about 1 to about 10 wt%, or from about 10 wt% to about 30 wt% protein, based on the weight of the nutritional composition.

14. The use of any one of claims 1-13, wherein the nutritional composition comprises from 0.5 wt% to 20 wt%, from about 0.5 to about 15 wt%, from about 0.5 to about 10 wt%, from about 0.5 to about 5 wt%, or from about 5 to about 15 wt% fat, based on the weight of the nutritional composition.

15. The use of any one of claims 1-14, wherein the nutritional composition comprises from about 5 wt% to about 75 wt%, from about 5 wt% to about 70 wt%, from about 5 wt% to about 65 wt%, from about 5 wt% to about 50 wt%, from about 5 wt% to about 40 wt%, from about 5 wt% to about 30 wt%, from about 5 wt% to about 25 wt%, from about 10 wt% to about 65 wt%, from about 20 wt% to about 65 wt%, from about 30 wt% to about 65 wt%, from about 40 wt% to about 65 wt%, or from about 15 wt% to about 25 wt% carbohydrate, based on the weight of the nutritional composition.

16. The use of any one of claims 1-15, wherein the nutritional composition is a liquid nutritional composition and comprises from about 1 to about 15 wt% of protein, from about 0.5 to about 10 wt% fat, and from about 5 to about 30 wt% carbohydrate, based on the weight of the nutritional composition.

17. The use of any one of claims 1-15, wherein the nutritional composition is a powder nutritional composition and comprises from about 10 to about 30 wt% of protein, from about 5 to about 15 wt% fat, and from about 30 wt% to about 65 wt% carbohydrate, based on the weight of the nutritional composition.

18. The use of any one of claims 1-17, wherein the nutritional composition comprises at least one protein comprising milk protein concentrate and/or soy protein isolate, at least one fat comprising canola oil, corn oil, coconut oil and/or marine oil, and at least one carbohydrate comprising maltodextrin, sucrose, and/or short-chain fructooligosaccharide.