In one example, powdered beverage compositions are provided that include first collagen peptides, second collagen peptides, and axtaxanthin, wherein the first collagen peptides have an average molecular weight of about 1 kDa to about 4 kDa and the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa. In one aspect, the present disclosure refers to a powdered beverage composition, comprising first collagen peptides, second collagen peptides, and axtaxanthin, wherein the first collagen peptides have an average molecular weight of about 1 kDa to about 4 kDa and the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa.

In another example, aqueous beverage compositions are provided that include first collagen peptides, second collagen peptides, axtaxanthin, and an aqueous carrier, wherein the first collagen peptides have an average molecular weight of about 1 kDa to about 4 kDa and the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa.

In some examples, the first collagen peptides are present in the composition in an amount of from about 15 weight% to about 30 weight%. In some examples, the second collagen peptides are present in the composition in an amount of from about 35 weight% to about 55 weight%. In some examples, the astaxanthin is present in the composition in an amount of from about 0.5 weight% to about 2.5 weight%.

In some examples, the composition further includes one or more vitamins. In some examples, the one or more vitamins include vitamin A palmitate. In some examples, the vitamin A palmitate is present in the composition in an amount of from about 0.01 weight% to about 0.1 weight%. In some examples, the one or more vitamins includes biotin. In some examples, the one or more vitamins includes ascorbic acid. In some examples, the ascorbic acid is present in the composition in an amount of from about 0.1 weight% to about 1 weight%. In some examples, the aqueous carrier is water (e.g., flavored water).

In another example, methods of improving skin, joint, and/or hair health are provided. Such methods typically include solubilizing the powdered beverage composition described herein into an aqueous carrier; and ingesting an effective amount of the solubilized beverage composition, thereby improving skin, joint, and/or hair health. In one aspect, the present disclosure refers to a method of improving skin, joint, and/or hair health, comprising: solubilizing the powdered beverage composition as described herein into an aqueous carrier; and ingesting an effective amount of the solubilized beverage composition, thereby improving skin, joint, and/or hair health.

In yet another example, methods of improving skin, joint, and/or hair health are provided. Such methods typically include ingesting an effective amount of the aqueous beverage composition described herein, thereby improving skin, joint, and/or hair health.

In still another example, methods of making the beverage mix described herein are provided. Such methods typically include combining the first collagen peptides, the second

collagen peptides, and the astaxanthin. In one aspect, the present disclosure refers to a method of making the beverage mix as described herein, comprising: combining the first collagen peptides, the second collagen peptides, and the astaxanthin. In some examples, the methods further include adding an aqueous carrier.

In another example, powdered beverage composition are provided that include collagen peptides, astaxanthin, biotin, and at least one antioxidant, wherein the collagen peptides have an average molecular weight of about 1 kDa to about 5 kDa. In one aspect, the present disclosure refers to a powdered beverage composition, comprising collagen peptides, astaxanthin, biotin, and at least one antioxidant, wherein the collagen peptides have an average molecular weight of about 1 kDa to about 5 kDa.

In still another example, powdered beverage compositions are provided that include first collagen peptides, second collagen peptides, and at least one antioxidant, wherein the first collagen peptides have an average molecular weight of about 1 kDa to about 4 kDa and the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa. In one aspect, the present disclosure refers to a powdered beverage composition, comprising first collagen peptides, second collagen peptides, and at least one antioxidant, wherein the first collagen peptides have an average molecular weight of about 1 kDa to about 4 kDa and the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa. In some examples, the at least one antioxidant is selected from vitamin A and vitamin C.

In yet another example, aqueous beverage compositions are provided that include first collagen peptides, second collagen peptides, at least one antioxidant, and an aqueous carrier, wherein the first collagen peptides have an average molecular weight of about 1 kDa to about 4 kDa and the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa. In some examples, the at least one antioxidant is selected from vitamin A and vitamin C.

In one example, powdered beverage compositions are provided that include first collagen peptides, second collagen peptides, and biotin, wherein the first collagen peptides have an average molecular weight of about 1 kDa to about 4 kDa and the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa. In one aspect, the present disclosure refers to a powdered beverage composition, comprising first collagen peptides, second collagen peptides, and biotin, wherein the first collagen peptides have an average molecular weight of about 1 kDa to about 4 kDa and the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa.

In yet another example, aqueous beverage compositions are provided that include first collagen peptides, second collagen peptides, biotin, and an aqueous carrier, wherein the first collagen peptides have an average molecular weight of about 1 kDa to about 4 kDa and the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa.

In yet another example, powdered beverage mix composition contained in a bulk package are provided, wherein the bulk package containing a measuring scoop and the powdered beverage mix composition, the measuring scoop being sized to scoop an amount of the powdered beverage mix composition suitable for blending with a liquid to form a beverage. Typically, amount of the powdered beverage mix composition is 10 to 20 g and comprises: a) between 15 weight% and 30 weight% of first collagen peptides, wherein the

first collagen peptides have an average molecular weight of about 1kDa to about 4 kDa; b) between 35 weight% and 55 weight% of second collagen peptides, wherein the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa; and c) between 0.5 weight% and 2.5 weight% astaxanthin. In one aspect, the present disclosure refers to a powdered beverage mix composition, contained in a bulk package, the bulk package containing a measuring scoop and the powdered beverage mix composition, the measuring scoop being sized to scoop an amount of the powdered beverage mix composition suitable for blending with a liquid to form a beverage, wherein the amount of the powdered beverage mix composition is 10 to 20 g and comprises:

a) between 15 weight% and 30 weight% of first collagen peptides, wherein the first collagen peptides have an average molecular weight of about 1kDa to about 4 kDa;

b) between 35 weight% and 55 weight% of second collagen peptides, wherein the second collagen peptides have an average molecular weight of about 2 kDa to about 5 kDa; and

c) between 0.5 weight% and 2.5 weight% astaxanthin.

Unless otherwise defined, all technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which the methods and compositions of matter belong. Although methods and materials similar or equivalent to those described herein can be used in the practice or testing of the methods and compositions of matter, suitable methods and materials are described below. In addition, the materials, methods, and examples are illustrative only and not intended to be limiting. All publications, patent applications, patents, and other references mentioned herein are incorporated by reference in their entirety.

DETAILED DESCRIPTION

This disclosure describes a collagen-based beverage formula that utilizes collagen peptides that are biologically active for increasing endogenous collagen production site-specifically within the skin and joints. In addition, the composition also includes natural astaxanthin to provide anti-oxidant benefits.

Collagen

The first ingredient is collagen peptides having an average molecular weight of about 1 kDa to about 4 kDa, which have been shown to increase collagen mRNA and fibroblast cell stimulation two-times greater than that of generic collagen peptides. Generally, between about 1 g and about 10 g (e.g., about 2 g to about 7.5 g, about 2.5 g to about 5 g, about 3 g to about 4 g, about 1 g to about 5 g, about 1 g, about 3 g, about 5 g, about 10 g) of the first collagen peptides is used in a composition as described herein. The first collagen peptides can take any number of forms including, for example, a hydrolyzed powder. A skilled artisan would be able to generate collagen peptides having an average molecular weight in the range of about 1 kDa to about 4 kDa using known methods.