- **BEAUTY & BRAWN – BENEFITS FOR WOMEN & MEN:** The benefits for women of type I/III collagen peptides (also called "hydrolysate") are well-established. Multiple academic studies have shown it to dramatically reverse effects of aging in skin, strengthen hair and nails and also aid bone density/strength. Adding collagen types II, IV, V, and X also decrease muscle loss, helps wound/injury recovery, lowers joint inflammation and pain, build muscle faster, and aids vascular and organ health.
- **"FIRST OF ITS KIND" BAR**: Some bars do use types I/III collagen (often as the sole protein source). That's nothing earth-shattering. However, collagen on its own is an incomplete protein[35] and **not** an optimal recovery bar. The Expedition Recovery Bar contains six critical types of collagen **PLUS** a high-quality whey protein isolate…the perfect power pairing for performance athletes of all ages!
- **TRULY COMPLETE PROTEIN**: 10g of types I/II/III/IV/V/X collagen protein providing key amino acids like Glycine (gives muscles more flexibility and reduces inflammation), Proline (rebuilds connective tissue faster), and Arginine (enhances blood flow) plus 5g low-lactose ultra-filtered whey isolate protein (a complete protein chain) and 5g plant-based protein from the peanut butter!
- **CLEAN INGREDIENTS & INCREDIBLE TASTE:** We make the best tasting recovery bar on the market using high quality protein and collagen ingredients sourced from grass-fed cattle, wild-caught fish, and cage-free chickens. No "protein bar" aftertaste!
- **TRAIN & PLAY HARDER, RECOVER FASTER:** Build muscle mass, speed muscle recovery, reduce inflammation and joint pain, repair injuries, heal wounds faster! (from road rash to surgeries).

Nutrition Facts

1 servings per container
Serving size
2.5 Ounces (71g)
Calories per serving **300**

Amount/serving	% Daily Value*	Amount/serving	% Daily Value*
Total Fat 12g	**15%**	**Total Carbohydrate** 38g	**14%**
Saturated Fat 2.2g	**11%**	Dietary Fiber 3g	**11%**
Trans Fat 0g		Total Sugars 33g	
Cholesterol 0mg	**0%**	Includes 22g Added Sugars	**44%**
Sodium 280mg	**12%**	**Protein** 20g	**40%**
Vitamin D 0mcg 0% • Calcium 0mg 0%		• Iron 0mg 0%	
Potassium 165mg 4%			

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Allergens: Contains peanuts, egg, dairy, fish. **No** gluten, soy, trans fats, or tree nuts.

20G PROTEIN • COLLAGEN TYPES I/II/III/IV/V/X • GREAT TASTE

Launching Summer 2020 at www.expeditionbars.com **$4 per 2.5oz bar** @expeditionbars

THE POWER OF COLLAGEN (from Greek *kólla* - "glue") AND WHEY PROTEIN ISOLATE

COLLAGEN IS THE "SCAFFOLDING OF THE HUMAN BODY"

Collagen is the major fibrous protein in the extracellular matrix (structural tissue support)[7] and makes up 80% of the connective tissue in the human body[13] (and comprises 25-30% of the total protein content[20]). but production of collagen drops dramatically after age 30[11], and by age 60 we lose 50% of our body's collagen. Intake of collagen stimulates your body to produce more of its own[1]. Recommended intake of collagen hydrolysate is 10g daily[18] (we include 10g/bar).

UNDERSTANDING THE MAJOR TYPES OF COLLAGEN

TYPE I/III (bovine or marine) - Skin, bones, tendons, teeth, vascular, organs (the only types found in most "collagen" products)
Type II (chicken) – Cartilage elasticity (cushions joints), injury recovery, inhibiting tumor growth[16]
Type IV (egg) - Cell health and regenerative growth, skin trauma healing (burns, grafts, ulcerations[24] and surgical cuts, stab wounds, and lacerations[25]), inhibiting cancer[25]
Type V (eggshell membrane) - Controls initiation of fibril assembly[29] (i.e. enabling the production of other collagens).
Type X (eggshell membrane) - Forms reliable marker for regulating endochondral ossification of articular cartilage[28] (i.e. the healing of bone fractures).

Joint Pain Reduction, Bone Strength/Density, & Injury Recovery in Athletes

Scientific studies have shown collagen to have a dramatic effect on a wide range of musculoskeletal diseases and conditions. Several studies[4,8,15] showed a dramatic (over 25%) reduction in pain for those suffering from osteoarthritis from daily 40mg dose of Type II collagen. In fact, a 2016 study[14] of healthy athletes at Penn State showed a significant improvement in inflammation, mobility, and joint pain during athletic movement, especially in the subgroup with knee issues. Further, it showed that collagen has a protective effect on joint cartilage, and provides symptomatic pain relief in athletes.
Type I collagen is also critical in bone reconstruction[13]. Collagen makes up 50% of human bone (the other 50% is calcium). Intake of collagen also enhances bone strength[18] and bone mineral density[19], reducing fracture risk in people of all ages.

Improved Muscle Mass / Accelerated Workout Recovery :: Collagen + Whey Protein Isolate

Skeletal muscles are composed mainly of contractile material plus connective tissue, blood vessels, and nerves. Muscle fibers are coated by extracellular matrix material (ECM). This ECM surrounding muscle fibers is composed of (mostly) Type IV collagen, laminins, fibronectin, and proteoglycans[32]. ECM gives mechanical structure to myofibers during contraction and mechanical support for force transmission[33]. As muscle fibers experience mechanical tension (through endurance and resistance training) and molecular signaling (mTOR signaling to increase muscle protein synthesis), along with the potential for some level of damage which can actually inhibit hypertrophic growth, collagen is essentially the "glue" that connects the satellite cells to the repaired area[32]. Essentially these cells bind to the Type IV collagen and to the laminin[17]. As we age and lose collagen, this results in an inhibited muscle regeneration potential. Clearly Collagen is vitally important to both building muscle mass (and slowing or reversing muscle loss as we age), and critical for muscle recovery/repair.

While whey proteins high in branched chain amino acids (and Leucine in particular) are known to aid in building muscle mass[20], collagen (specifically the Proline amino acid) is also instrumental in building muscle mass and repairing micro-tears in muscle tissue, and both Arginine and Glycine in collagen are important substrates (2 of the 3 necessary) for the body's own **NATURAL** production of creatine[20]. In a 12-week study of older men doing resistance training and adding collagen to their diet, the collagen group was found to have nearly double the increase in muscle strength (+16%) compared to the control/placebo group (+7%). This same study found that collagen's increase microcirculation was more beneficial to muscle growth than other protein sources, and the increased microvascular perfusion (blood and gas exchange in tissue) resulted in increased amino acid delivery after protein supplementation. Further, with decreased joint pain and less inflammation, the collagen group was able to train harder.

Broad-Spectrum Collagen Peptides + Whey Protein Isolate = More Muscle & Faster Recovery

Biomedical Properties: Bone Reconstruction & Wound Healing
A 2014 study[24] of multiple collagen types extracted from marine life showed strong utility in biomedical applications, including bone tissue engineering. Marine collagen is also a good base for bone tissue scaffolding[26]. In addition to anti-aging properties and skin healing, type IV collagen has also been found to have application in healing skin traumas (burns, grafting, ulceration)[24] and collagen dressing on burns reduces the need for skin grafting[27]. A 2012 study[25] of Type IV collagen found strong evidence of it being highly valuable in wound healing. 62 human skin wounds (including surgical cuts, stab wounds, and lacerations) analyzed showed improvements in the timeline and wound healing. The same study further revealed that Type IV collagen is more pliable and kinked relative to other forms, which then forms sheets, which is the primary structural form in cutaneous basal lamina (in simpler terms, the "sheet" between the outer (epidermis) and second (dermis) layers of skin. It also forms critical membranes in the kidney, inner ear, and eye.

Heart and Vascular Health, Repairing Leaky Gut, Liver Detox
Collagen provides structure to the vascular walls and improves elasticity. With depleted collagen levels arteries weaken and can harden (atherosclerosis). A 2017 study[21] showed that collagen intake significantly reduced the LDL-C to HDL-C ratio, which could lower the risk of diabetes and hypertension.
Nearly 80% of your immune system is housed in your gut (intestinal tract). "Leaky Gut" occurs when the lining (epithelial barrier) is compromised. This allows toxins, food particles, and infections to pass through the intestinal wall and cause inflammation, which can initiate autoimmune diseases. The amino acids in collagen help "seal the leak"[34].
The Glycine in collagen also accelerates recovery from alcohol-induced liver injury[3].

Inhibits Cancer Spread in Tissue Membranes
A 2012 study[25] looked at the importance of the Basement Membrane Zone ("BMZ") as a regulator of cell behavior, and it mediates tissue compartmentalization and sends signals to other cells about the external microenvironment. Supplement intake of collagen Type IV improves the Basement Membrane Zone, which in turn helps regulate tumor angiogenesis (the formation of new blood vessels) making it an attractive target for potential oncology therapies.

Skin, Hair, Nails
Multiple studies have shown oral intake of Type I/III and Type II collagen has shown a significant reduction (up to 76% in studies) in dermal aging, skin dryness, and wrinkles[1,2,6,9,12,23,37]. Collagen is also proven to improve nail growth and reduce symptoms of brittle nail syndrome[22]. Types I and IV collagen also have been shown in studies to actually reduce cellulite[31] in women and aid in embryonic development[38].

***IMPORTANT:** Vitamin C deficiency inhibits absorption of collagen[30]. Don't neglect this important daily nutrient!

THE BOTTOM LINE

Q: If Collagen is truly this amazing "fountain of youth" supplement and there is so much compelling science behind it, then why are we (a small family run business in northern Idaho) the first company ever to produce a full spectrum collagen + protein bar? Why aren't the big players doing it already?

A: The answer is simple: Innovation and profit margin. We pride ourselves on being a leader in product innovation, having already launched several new creations in our "young" business existence. We're not just interested in "grabbing a piece of the market". Our mission is to take the time to do it better, whether a great tasting and high performing energy bar, a delicious meal replacement bar, or a superior recovery bar. Further, adding any collagen to a bar is pricey. Even type I/III bovine collagen is pricey enough…and full spectrum collagen is dramatically more expensive. The big players seem to focus more on profit margin than innovation. We don't. We believe this is cutting edge recovery bar science and the way the market should be moving. We think you'll agree.

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