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**PaleoReds**® combines more than a dozen phytonutrient-rich fruits and vegetables from the red and purple groups delivered in a delicious strawberry flavoured powder to help support optimal cellular health. The proprietary fruits, vegetables, and oxygen radical absorbance capacity (ORAC) value blends in this formula contain a diverse range of health-promoting phytochemicals that work synergistically with the enzyme blend to support the body's overall nutrient status. The OxyPhyte® grape seed and skin extracts feature resveratrol and the pomegranate fruit extract featuring ellagic acid, along with phytonutrients that have been extensively researched demonstrating their potential health benefits. This great tasting phytonutrient fruit and berry formula is designed to support antioxidant status in the body and to help promote a healthy inflammatory response.

### **Ingredient Highlights**

- ORAC value proprietary blend rich in resveratrol to support antioxidant status in the body
- Enzyme blend to support digestion and absorption
- No grains or legumes
- Free of common allergens

### **Polyphenols and Health**

Increased consumption of fruits and vegetables is recommended by the USDA Dietary Guidelines for Americans, as it supports overall health and wellness. Studies have found an association between higher intake of fruits and vegetables and lower risk of mortality,<sup>1</sup> in addition to many chronic conditions including cardiovascular disease,<sup>2,3</sup> asthma,<sup>4</sup> postmenopausal osteoporosis,<sup>5</sup> hypertension,<sup>6</sup> depression,<sup>7</sup> type 2 diabetes,<sup>8</sup> metabolic syndrome,<sup>9,10</sup> and dementia and cognitive impairment.<sup>11</sup>

Fruits and vegetables are rich in essential vitamins, minerals, and phytochemicals, all which are likely working synergistically to support health. Polyphenols are a class of phytochemicals that include flavonoids, phenolic acids, stilbenes, and lignans. Flavonoids include flavonols, such as quercetin, flavanones, isoflavones, anthocyanins, and flavan-3-ols, such as catechin and epigallocatechin gallate. Resveratrol falls under the category of stilbenes, whereas ellagic acid and gallic acid are phenolic acids.<sup>12</sup>

PaleoReds® contain proprietary blends featuring a variety of fruits and vegetables rich in bioactive polyphenols, especially those in the red and purple spectrum, including flavonoids, phenolic acids, anthocyanins, resveratrol, catechins, gallic acid, and tannins.¹³-¹⁰ Meta-analyses have found that consuming diets rich in polyphenols and their subcategories, such as flavonoids and anthocyanins, may help reduce the risk of chronic disease including cardiovascular disease,²⁰ type-2 diabetes,²¹.²² and metabolic syndrome.²³

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# **Redox Balance**

Polyphenols support the body's antioxidant status. Polyphenols play a role in modulating certain pathways that support antioxidant defense, including the nuclear factor-2 erythroid related factor-2 (Nrf2) pathway.<sup>24</sup> The transcription Nrf2 upregulates hundreds of cytoprotective genes, including those that code for antioxidant, anti-inflammatory, and phase 2 detoxifying actions.<sup>25</sup> The Nrf2 pathway activates endogenous antioxidant defense and regulates the inflammatory response.<sup>26</sup> Polyphenols may also inhibit the enzymes that generate reactive oxygen species (ROS), such as NAD(P)H oxidase and the absorption of oxidized metabolites.<sup>27</sup> Polyphenols may also directly support the scavenging of ROS and inhibit lipid peroxidation.<sup>24</sup>

A systematic review and meta-analysis of randomized controlled trials with grape products containing polyphenols found that the polyphenols led to a significant increase of total antioxidant capacity (TAC). In a subanalysis of healthy participants, the polyphenols increased TAC, superoxide dismutase, and ORAC.<sup>28</sup> A systematic review and meta-analysis of grape seed extract supplementation found it led to a significant decrease in malondialdehyde, oxidized low-density lipoprotein cholesterol, high-sensitivity C-reactive protein (CRP), and a marginal increase in TAC.<sup>29</sup>

### **Gut Microbiome**

A diet rich in polyphenols may also promote microbial diversity and support gut health. Polyphenols may modulate gut microbiome composition and their metabolites, such as butyrate. Polyphenols not absorbed in the small intestine enter the large intestine where they undergo enzymatic breakdown by commensal bacterial into more absorbable metabolites. These metabolites may enact some of the purported health effects, which include the support of antioxidant status and the promotion of a healthy inflammatory response.<sup>33,34</sup> The gut microbiota and polyphenols may have a bidirectional relationship with a diet rich in polyphenols also promoting an increase in commensal bacteria.<sup>33,34</sup> A systematic review found that polyphenols modulated the gut microbiota to support a more beneficial microbial composition, and the gut microbiome modulated the polyphenols to increase the number of polyphenolic metabolites in blood, urine, and feces.<sup>35</sup>

### **Benefits**

- Supports antioxidant status
- Supports nutrient status

# Medicinal Ingredients (per scoop/1 Tbsp/9 g):

Fruit and Vegetable Blend (Malpighia glabra-Fruit, Vaccinium angustifolium-Fruit, Vaccinium *macrocarpon-*Fruit, Beta vulgaris-Root, Daucus carota-Root, Rubus idaeus-Fruit, Punica granatum-Fruit, Vaccinium corymbosum-Fruit, Fragaria x ananassa-Fruit, Euterpe edulis-Fruit).....8.51 q Apple (Malus domestica-Fruit) (75% Polyphenols)......5 mg European elder (Sambucus nigra-Fruit) (64:1)......5 mg Alpha-Amylase (Aspergillus flavuts var. oryzae-Whole)......2.5 mg (250 FCC DU) Non-Medicinal Ingredients: Natural strawberry flavour, natural flavours, tapioca starch, stevia rebaudiana leaf extract. Recommended Dose: Adults: Add 1 scoop (1 Tbsp/9 g) to water, stir briskly and consume immediately once daily, or as directed by your health care practitioner. Take with food. For prolonged use, consult a health care practitioner. Consult a health care practitioner for use beyond 3 months. Refer to the product label for dosing instructions, age-appropriateness, and relative risk statements. Healthcare practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Note: The fruit and vegetable extracts in this product do not replace daily recommended fruit and vegetable consumption.

# PaleoReds™

# Antioxidant-rich, whole food fruit and vegetable powder

PaleoReds™ is a delicious whole food extract powder containing cherries, strawberries, blueberries and other highly nutritious organic fruits and vegetables, with an additional 10 mg of a proprietary enzyme blend to assist in the digestion of carbohydrates, proteins and fats. One serving has the equivalent antioxidant capacity of four servings of fruit, based on the USDA-developed method for measuring antioxidant activity, known as ORAC (Oxygen Radical Absorbance Capacity). However, if someone were to eat four servings of fruits, they would also ingest an average of 60g of carbohydrates from a mix of the simple sugars glucose and fructose. PaleoReds™ was designed to be low in calories and sugar (contains only 7g of effective carbohydrates), while providing all the phytonutrients from ten powerful fruits and vegetables, including extracts from grape seed/skin and elderberry.

# **Highlights**

**Quality Ingredients** – PaleoReds<sup>™</sup> powder contains 85% certified organic ingredients, including phytonutrients from blueberries and apples, while also providing 220% of the daily value of vitamin C from the Amazonian acerola cherry. Specially selected ingredients guarantee maximum potency and antioxidant protection to quench damaging free radicals.

Who may benefit from PaleoReds™? - PaleoReds™ can help you meet your daily requirement for fruits and vegetables while providing antioxidant protection - a tremendous benefit given the current environmental challenges and shortcomings of the modern food supply, which may increase the need for these valuable compounds.

PaleoReds™ is perfect for people who avoid or limit fruit consumption on low-carb diets because of its effect on blood sugar and insulin. It is also great for the elderly, who may have trouble chewing fruits and vegetables, and for children, who may have aversions to such foods.

## Benefits of PaleoReds™

- Easy-to-use, great-tasting powder
- Non-GMO ingredients
- 85% certified organic ingredients
- Provides nutrients from ten powerful fruits and vegetables
- 220% of the daily value of vitamin C
- Equivalent antioxidant capacity of 4 servings of fruit
- Low in calories and sugar
- Exclusive digestive enzyme blend
- Perfect for people who avoid or limit fruit consumption

# **How to Use**

- Mix 9 grams (approx. one tablespoon) in water per day, or as directed by your health care practitioner.
- PaleoReds<sup>™</sup> also makes a powerful and great-tasting boost to shakes and smoothies.



\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.