

## **Life Extension Mix™ Capsules**

### **490 capsules**

Consumers take **dietary supplements** to obtain concentrated doses of some of the beneficial nutrients (such as folic acid) that are found in fruits and vegetables. Many **multivitamins**, however, do not provide all the vital plant components that scientists have found are needed to maintain good health. Life Extension Mix is formulated based on published findings showing that consuming lots of fruits and vegetables dramatically lowers the risk of health problems. Life Extension Mix provides concentrations of the fruit and vegetable extracts that researchers have found protect against a wide variety of cellular insults. A Johns Hopkins study found from 1999-2002, only 28% and 32% of American adults met the United States Department of Agriculture (USDA) guidelines for fruit and vegetable intake, respectively.<sup>1</sup>

### **More Vitamin D**

The amount of vitamin D in Life Extension Mix has been boosted to 1000 IU to address a growing body of research that indicates the importance of higher vitamin D levels.

Additionally, Life Extension Mix now contains more of the enzymatically active form of vitamin B6 known as pyridoxal 5' phosphate (P5P). Because some people do not readily convert vitamin B6 to this form of the vitamin, Life Extension Mix contains enough biologically available pyridoxal 5' phosphate to help ensure an adequate supply of this active form of B6. Further, this form also helps block the formation of advanced glycation end (AGE) products.

### **Multivitamins and Antioxidants**

#### **The power of cocoa polyphenols**

An abundance of new research shows that the unique polyphenols in cocoa provide broad-spectrum benefits to the arterial system. Based on studies showing that cocoa polyphenols are extremely effective in neutralizing free radical activity and have been shown to contain more antioxidant polyphenols than any other food, standardized cocoa polyphenol extracts are contained in Life Extension Mix formula. Cocoa polyphenols offer the cardiovascular benefits of cocoa without fat or calories and contain the same amount of polyphenols as a 1/4 serving (about 0.5 ounces) of a dark chocolate bar.

#### **Standardized pomegranate extract**

The pomegranate extract contained in Life Extension Mix is standardized to provide the biologically active punicalagins that are so unique to this fruit. Pomegranate punicalagins are 100% water soluble and have shown a remarkable 95% absorption rate.<sup>2</sup> When tested against popular antioxidant food extracts, pomegranate demonstrated one of the most potent free radical-suppressing effects. This means that pomegranate punicalagins not only absorb

much better than other natural **antioxidants**, but they also have a superior antioxidant capacity.

Like cocoa polyphenols, peer-reviewed published human studies show that pomegranate helps maintain healthy cardiovascular function by enhancing the endothelial nitric oxide synthase bioactivity, and inhibiting the oxidation of LDL cholesterol.<sup>3-9\*</sup> Pomegranate also has the unique property of helping to maintain healthy DNA structure in the prostate cells.\* The daily dose of Life Extension Mix provides the equivalent of consuming up to 2.6 ounces of pomegranate juice—without the sugar calories.

### **Standardized blueberry extracts**

Blueberry anthocyanins are potent natural antioxidants that have demonstrated properties that extend well beyond suppressing free radicals.

For instance, blueberries have been shown to not only improve memory, but to also undo some of the degenerative changes seen in aging neurons. One study showed that the ability of blueberries to suppress free radical and inflammatory damage in the brain was analogous to long-term calorie restriction.<sup>10,11</sup> These findings hint that blueberries might be able to reverse certain aspects of brain aging!

Blueberry's other active constituent (*pterostilbene*) promotes healthy lipid and glucose for those already within normal range.<sup>12,13</sup> Even more exciting is that these blueberry constituents (pterostilbene and anthocyanins) may help protect DNA structure.<sup>14\*</sup>

The Life Extension Mix formula provides the standardized blueberry extracts that provide the most active constituents found in this health-promoting fruit.

### **Standardized green tea extract**

Life Extension introduced green tea extract as a supplement in 1993 based on epidemiological studies showing that people who consumed green tea had lower incidences of common degenerative problems.<sup>15</sup> Over the past 14 years, an enormous volume of positive studies has been published about the health benefits of green tea.

Scientists have looked at the active “polyphenol” constituents of green tea and have found that they possess remarkable biological activities that include inhibiting LDL oxidation and neuronal peroxidation, while maintaining healthy DNA structure.<sup>16-22\*</sup>

Life Extension Mix contains 325 mg of a decaffeinated green tea extract that is standardized to provide 98% of the active polyphenols that scientists attribute to green tea's multiple health benefits.

The amount of polyphenols, especially epigallocatechin gallate (EGCG), in Life Extension Mix is equivalent to drinking about three to four cups of green tea per day.

### **Standardized vegetable extracts**

Luteolin is a flavonoid found in parsley, artichoke, basil, celery, and other foods. When measured against 27 other flavonoids, luteolin provided the most DNA protection.<sup>23</sup> One favorable mechanism of luteolin is its ability to inhibit oxidative damage to cellular DNA. Another unique benefit is luteolin's ability to suppress excess levels of dangerous inflammatory cytokines such as interleukin-6 and interleukin 1b.<sup>24,25</sup> Life Extension Mix contains a standardized dose of 8 mg luteolin, a dose that emulates the benefits seen in published scientific studies.

Broccoli is touted as one of the most important vegetables to maintain healthy DNA gene structure. Broccoli contains several active constituents, with sulforaphane being the most significant because of its unique detoxification and DNA protecting effects. Life Extension Mix provides broccoli sprout concentrate that provides standardized extracts of sulforaphane and glucosinolates, two compounds to which broccoli's protective benefits have been attributed. Broccoli is also a natural source of gene-protecting chlorophyll.<sup>26-33</sup>

D-glucarate is a botanical extract found in grapefruit, apples, oranges, broccoli, and Brussels sprouts. D-glucarate supports a detoxification process that helps to remove DNA toxins from the body. The daily dose of Life Extension Mix provides 200 mg of calcium D-glucarate.<sup>34-36</sup>

Lutein, an extract found in corn and in leafy greens such as kale and spinach, has been shown to help maintain critical pigments in the eye macula.<sup>37</sup> The carotenoid alpha carotene has demonstrated antioxidant activity greater than beta-carotene, whereas lycopene from tomatoes has shown potent effects in helping to maintain DNA structure and protecting against LDL oxidation.<sup>38-40</sup> Life Extension Mix contains 60 times more lutein and 10 times more lycopene compared to Centrum®. Most **multivitamin supplements** provide no vegetable extracts whatsoever.

### **Standardized fruit extracts**

In addition to standardized pomegranate and blueberry extracts, Life Extension Mix is also fortified with fruit extracts such as bilberry, grape seed, grape skin, and citrus bioflavonoids to provide healthy circulation throughout the body and maintain healthy DNA.\*

Scientists have long touted the multiple benefits of fruits such as blueberry, blackberry, cranberry, plums, elderberry, persimmon, and cherry. Life Extension Mix provides a customized blend of these and other fruits that

studies indicate provide multiple favorable effects in the body.

Olive oil consumption is one of the important factors behind the health benefits of the “Mediterranean Diet.”<sup>41,42</sup> Researchers have discovered that there are up to 300 times more polyphenol compounds in olive water compared to olive oil.<sup>43</sup> Olive polyphenols have been the subject of numerous *in vitro*, *in vivo*, and human studies pointing toward their benefits in many different areas, including protecting against LDL oxidation, suppressing free radicals, and stabilizing cell membranes.<sup>42,43-45</sup> Life Extension Mix contains a potent olive extract standardized to provide the best-documented polyphenol, hydroxytyrosol.<sup>48</sup> The amount of hydroxytyrosol in the daily dose of Life Extension Mix is equivalent to drinking more than one ounce of virgin olive oil a day.<sup>46,47</sup>

### **Sesame lignans enhance the effects of vitamin E**

Sesame and its lignans have a broad range of applications in human health. This includes increasing human tissue levels of gamma-vitamin E by facilitating carrier proteins in the liver to deliver nutrients to cells throughout the body.<sup>48,49</sup>

Sesame lignans increase the anti-inflammatory index of fish oils and help maintain already normal cholesterol/LDL levels in humans.<sup>50-53</sup> Life Extension Mix provides 10 mg of a sesame lignan extract to supply the direct benefits of the lignans, and augment the effects of vitamin E and other nutrients in the body such as gamma-tocopherol and gamma-linolenic acid (GLA).

### **Maintaining healthy blood glucose levels**

Chromium, along with magnesium and biotin, are nutrients required to maintain healthy blood sugar for those already within normal range.\* Life Extension Mix provides 500 mcg of chromium, a better absorbable form of magnesium, and a super high potency biotin. A review of studies showing benefits of chromium supplementation reveals that doses exceeding 200 mcg a day is required for optimal effects.<sup>54-58</sup>

### **High-potency vitamin D3**

Doctors used to be concerned that too much vitamin D could be toxic. Over the past few years, however, an increasing body of evidence indicates that it takes much higher doses of vitamin D (perhaps over 10,000 IU/day) to inflict toxicity on a healthy person. The concern expressed by researchers today is that fear of vitamin D toxicity is keeping many people from supplementing with enough vitamin D, which is critical for maintaining bone density and maintaining healthy cell division.<sup>59-63</sup> As a matter of fact, a review in the *New England Journal of Medicine* suggests that the recommended intakes for vitamin D are inadequate and need to be increased to at least 800 IU of vitamin D3 per day.<sup>64</sup> In response to research showing that even those who take standard vitamin D supplements are not obtaining adequate amounts, Life

Extension Mix™ provides 1000 IU of vitamin D3 per daily dose.

Life Extension Mix saves time and money by combining the most popular nutrient supplements into one multivitamin product, eliminating the need to take separate bottles of B-complex, vitamins C and E, mineral supplements, and much more that would be required to achieve the same effects.

Life Extension Mix supplies the most powerful **antioxidants**, including water and fat soluble vitamin C, vitamin E, and plant extracts that help protect against cellular DNA damage. Other ingredients in Life Extension Mix enhance beneficial DNA methylation patterns, help maintain glycemic control, and help prevent the oxidation of LDL that contributes to the buildup of deposits in the endothelial lining.

[References](#)

### Supplement Facts

Serving Size 14 capsules (per day)

Servings Per Container 35

<b>Amount Per Serving</b>	
Vitamin A (as 54% Betatene® <i>D. salina</i> natural beta-carotene with mixed carotenoids <sup>1</sup> and 46% acetate)	5000 IU
Vitamin C (as calcium ascorbate, ascorbic acid, ascorbyl palmitate, magnesium ascorbate, niacinamide ascorbate, and acerola juice powder)	2000 mg
Vitamin D3 (as cholecalciferol)	1000 IU
Vitamin E (as D-alpha tocopheryl succinate)	400 IU
Thiamine (vitamin B1) (as thiamine HCl)	125 mg
Riboflavin (vitamin B2) (with 2 mg riboflavin 5' phosphate coenzyme)	50 mg
Niacin (vitamin B3) (as 53% niacinamide, 38% niacin, 9% niacinamide ascorbate)	190 mg
Vitamin B6 (as 100 mg pyridoxal 5' phosphate coenzyme and 5 mg pyridoxine HCl)	105 mg
Folic acid	800 mcg
Vitamin B12 (as 42% cyanocobalamin, 42% hydroxycobalamin, 16% ion exchange resin)	600 mcg
Biotin	3000 mcg
Pantothenic acid (as D-calcium pantothenate with 5 mg pantethine)	600 mg

Calcium (as calcium ascorbate, D-calcium pantothenate, Calcium D-Glucarate <sub>2</sub> )	218 mg
Iodine (as potassium iodide)	75 mcg
Magnesium (as magnesium oxide, citrate, glycinate, taurinate, arginate, ascorbate)	400 mg
Zinc [as methionate (OptiZinc® <sub>3</sub> ), zinc succinate]	35 mg
Selenium [as 50% se-methylselenocysteine, 25% L-selenomethionine (yeast free) (SelenoPure™ <sub>4</sub> ), and 25% sodium selenate]	200 mcg
Copper (as copper bisglycinate chelate)	1 mg
Manganese (as manganese gluconate)	1 mg
Chromium (as Chromium 454™ <sub>5</sub> bio-organic yeast extract matrix)	500 mcg
Molybdenum (as sodium molybdate)	125 mcg
Potassium (as potassium chloride)	37.4 mg
N-acetyl-L-cysteine (NAC)	600 mg
Taurine	200 mg
Inositol	250 mg
Phosphatidylcholine (from soy)	150 mg
Choline (as choline bitartrate)	120 mg
Boron (as boron citrate/aspartate/glycinate complex)	3 mg
Ascorbyl palmitate (fat-soluble vitamin C)	250 mg
<i>para</i> -aminobenzoic acid (PABA)	200 mg
Trimethylglycine (TMG) (as betaine anhydrous) (from sugar beets)	100 mg
Alpha-carotene	100 IU
Citrus bioflavonoid complex [50% total flavonoids (100 mg), typically as 35% hesperidin, 14% other flavonones, and 1% other phenolic compounds]	200 mg
Broccoli sprout concentrate (A proprietary blend of broccoli sprout concentrates and Calcium D-Glucarate <sub>2</sub> ) (providing sulforaphane, glucosinolates, D-3T, and PEITC)	525 mg
Calcium D-Glucarate <sub>2</sub>	200 mg
Decaffeinated Green tea ( <i>Camellia sinensis</i> ) extract (leaf) [std. to 98% polyphenols (318.5 mg) and	325 mg

45% Epigallocatechin gallate (EGCG) (146.25 mg)]	
Acerola juice extract powder 4:1 ( <i>Malpighia puniceifolia</i> ) (fruit)	300 mg
Ginger root extract ( <i>Zingiber officinale</i> ) (root) [standardized to 5% gingerols (10 mg)]	200 mg
HiActives 100% fruit/berry complex (A proprietary blend of concentrated blackberry, blueberry, cranberry, elderberry, persimmon, plum, and cherry powders)	200 mg
Wild Blueberry ( <i>Vaccinium angustifolium</i> ) 130:1 extract (fruit) [standardized to 14% Total Phenolics (21 mg), 4.9% Total Anthocyanins (7.35 mg), 660 ppm Pterostilbene (0.1 mg)]	150 mg
CocoaGold™ cocoa ( <i>Theobroma cacao</i> L) extract (bean) [standardized to 45% polyphenols (30 mg)]	67 mg
Milk thistle extract ( <i>Silybum marianum</i> ) (seeds) [standardized to 85% silymarin (85 mg)]	100 mg
Pomella® <sup>10</sup> Pomegranate ( <i>Punica granatum</i> ) extract (fruit) [std. to 30% punicalagins (25.5 mg)]	85 mg
Bilberry extract ( <i>Vaccinium myrtillus</i> ) (berry) [standardized to 25% anthocyanidins (7.5 mg)]	30 mg
Leucoselect® <sup>6</sup> grapeseed extract ( <i>Vitis vinifera</i> ) (seeds) [std. to 95% proanthocyanidins (23.75 mg)]	25 mg
BioVin® <sup>7</sup> grape extract ( <i>Vitis vinifera</i> ) (whole grapes) [std. to minimum 95% proanthocyanidins (23.75 mg), minimum 75% total polyphenols as gallic acid monohydrate (18.75 mg), minimum 200 ppm <i>trans</i> -resveratrol]	25 mg
Bromelain (from pineapple) (2400 gelatin digestive units per gram)	15 mg
Lutein (purified concentrate from marigold flowers) ( <i>Tagetes erecta</i> ) (providing 465 mcg zeaxanthin)	15 mg
Olive juice extract (fresh fruit) [6% hydroxytyrosol (0.75 mg), 3% oleuropein (0.38 mg)]	12.5 mg
Sesame ( <i>Sesamum indicum</i> ) lignan extract	10 mg
Luteolin (high purity luteolin, as Pureolin™ <sup>8</sup> )	8 mg
Lycopene (from natural tomato extract) (Lyc-O-Mato® <sup>9</sup> )	3 mg

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Other ingredients: rice flour, gelatin, magnesium stearate.

Contains soybeans, tree nuts (cocoa beans). Contains yeast, corn and sesame.

This product contains NO milk, egg, fish, peanuts, crustacean shellfish (lobster, crab, shrimp), wheat, or gluten. Contains NO artificial sweeteners, flavors, or colors.

1- Betatene® is a registered trademark of Cognis Nutrition and Health.

2- The use of Calcium D-Glucarate is licensed from Applied Food Sciences, LLC under U.S. Patent No. 4,845,123.

3- OptiZinc® is a registered trademark of InterHealth Nutritionals, Inc.

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9- Lyc-O-Mato® is a registered trademark of LycoRed Natural Products Limited.

10- Pomella® is a registered trademark of Verdure Sciences, Inc.

### **Dosage and Use**

Take fourteen capsules per day in divided doses with meals, or as recommended by a healthcare practitioner.

### **Caution**

The niacin in this product may cause flushing (a feeling of warmth and reddening of the skin). This effect is temporary and harmless.

Life Extension Mix™ should not be used by individuals who have an allergy to sesame. Those with Wilson's disease or cancer patients on a physician-supervised copper depletion therapy should avoid copper.

### **Warnings**