

# HTN Complex™



Naturally Supports Normal Blood Pressure, Vascular Tone & Cardiovascular Health

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Hypertension (high blood pressure) is one of the most common disorders in the Western world, with a prevalence of about 15% of people having this condition. Hypertension is epidemiologically linked with a higher risk of cardiovascular-related diseases and premature death. HTN Complex is an encapsulated formula by Designs for Health that provides an array of nutrients and herbs to safely promote the maintenance of normal blood pressure and vascular tone. HTN Complex can be combined with additional K+2 Potassium, Arginine, Magnesium Malate Chelate, Why Cool Protein, and Omega Ultra Marine from Designs for Health, Inc. for maximum results and for the patient with significant existing hypertension [1-8].

## HTN Complex Featured Ingredients:

**Hawthorne (*Crataegus oxyacantha*):** A standardized Hawthorne (2% vitexin) is included in the HTN Complex. This botanical has multiple modes of action including acting as a mild diuretic, ACE-inhibitor, beta-blocker and calcium-channel blocker. It facilitates the relaxation of the vascular smooth muscle, reducing vascular tone and blood pressure. Studies on animals and in-vitro models have also suggested cardiovascular actions that include dilation of coronary arteries. The high bioflavonoid content in Hawthorne has been shown to demonstrate antioxidant activity and cardio-protective effects in experimental ischemic animal models. Both positive and negative inotropic effects have been observed in studies supportive of the use of Hawthorne in normalizing cardiac rhythm and aiding in the treatment of chronic congestive heart failure [9-12].

Supplement Facts		
Serving Size 4 capsules		
Servings Per Container 30		
Amount Per Serving		% Daily Value
Vitamin B6	50 mg	2500%
(as Pyridoxine HCl and Pyridoxal-5-Phosphate)		
Folates (NatureFolate™ bend)	2000 mcg	500%
Magnesium	200 mg	50%
(as DiMagnesium Malate, Magnesium Glycinate Chelate)		
Zinc	15 mg	100%
(as Zinc Chelazome® Bis-Glycinate Chelate)		
Potassium (as Bicarbonate)	250 mg	7%
Taurine	500 mg	*
N-Acetyl-Cysteine	500 mg	*
Hawthorne Extract	400 mg	*
( <i>Crataegus oxyacantha</i> )(flower & leaf)		
[standardized to contain 2% vitexin]		
Lipoic Acid	200 mg	*
Pomegranate Extract	125 mg	*
( <i>Punica granatum</i> )(fruit & skin)		
[standardized to contain 40% ellagic acid]		
Vanadium	100 mcg	*
(as Vanadium Chelavite® Nicotinate Glycinate Chelate)		

\*Daily Value not established.  
**Other Ingredients:** Cellulose, magnesium stearate, silica, gelatin.

### Mechanisms summary of HTN Complex active ingredients

**Diuretics:** Vitamin B6, taurine, Hawthorne, and magnesium

**Beta-Blockers:** Hawthorne

**Central Alpha Agonists:** Hawthorne, potassium, zinc, and B6

**Vasodilators:** Hawthorne, magnesium, potassium, taurine, and flavanoids

**Ca+-Channel Blockers:** Hawthorne, magnesium, lipoic acid N-acetyl-cysteine, and B6

**ACE Inhibitors:** Hawthorne, pomegranate and taurine

**Antioxidants:** Hawthorne, pomegranate, bioflavonoids, and lipoic acid

**Sugar-Induced HTN Modulators:** Vanadium and taurine

**Homocysteine Reducers:** Folate and B6 (A reduction in homocysteine has been demonstrated to lower blood pressure) [21, 22, 31, 35]

**Pomegranate (*Punica granatum*):** Standardized pomegranate (40% ellagic acid) is a novel and very important active ingredient in this product. Recent studies have shown that consumption of pomegranate juice which is rich in tannins and a multitude of polyphenolic antioxidant compounds is associated with blood pressure reduction, inhibition of LDL oxidation and foam cell formation, all of which may provide attenuation of atherosclerotic lesions. The blood pressure-lowering properties of pomegranate have been attributed to direct angiotensin-converting enzyme (ACE) inhibition, with one human in vivo study showing a 36% reduction in ACE activity and a 5% reduction in systolic blood pressure. A similar reduction of 31% was also observed in an in vitro study. As a reduction in serum ACE activity, even with no decrease in blood pressure, was previously shown to attenuate atherosclerosis, pomegranate juice extracts may offer a wide array of protection against cardiovascular diseases which could be related to its inhibitory effect on oxidative stress and on serum ACE activity [13-16].

**Taurine:** This sulphur-containing amino acid has been shown to have anti-hypertensive effects through its action as a diuretic, ACE-inhibitor and sympatholytic. The mild and natural diuretic action of taurine lowers blood volume, reducing systemic vascular pressure. Reduction in sympathetic peripheral vasoconstriction can facilitate vasodilation, further reducing blood pressure [17-19].

**Other nutrients in HTN Complex include:** Vitamin B6, folate, N-acetyl-cysteine (NAC), lipoic acid, and Albion true chelated forms of magnesium, vanadium and zinc [3, 4, 7, 16, 20-37].

## Blood Pressure Maintenance Supplement Protocol

- **HTN Complex:** 2 capsules twice daily

## Blood Pressure Lowering Supplement Protocol

- **HTN Complex:** 2 capsules twice daily
- **Magnesium Malate Chelate:** 1 tablet twice daily
- **Arginine:** 2 capsules twice daily
- **K+2 Potassium:** 3 capsules twice daily
- **OmegAvail Ultra TG:** 2 softgel capsules daily
- **Whey Cool Protein:** 2 scoops twice daily

## Diet & Lifestyle recommendations<sup>1, 2, 8, 38, 39</sup>

- Reduce sodium and chloride-rich foods (no more than 1.5-2.5 gms/day)  
(No snack foods, chips, canned soups, pre-packaged foods and fast food)
- Do not add salt at the table
- Eat fresh produce daily
- Consume adequate amounts of omega-3-fatty acids (i.e.: fish and flax oil)
- Exercise regularly
- Weight control (within 15% of ideal body weight)

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