Complications of diabetes include a role in eye, nerve, kidney and cardiovascular functions. Inflammation is prevalent in diabetes. Some studies show that oxidative stress is a major contributing factor. Oxidative stress is an imbalance between production of reactive oxygen and the body’s ability to quench these compounds or repair resulting damage. Excess blood glucose leads to overproduction of oxygen free radicals, oxidation of glucose and excess glycosylated (sugar-bound) proteins – factors leading to the development of diabetic complications. Lower antioxidant status has been seen in type 1 and 2 diabetics and those with retinopathy. Enhanced output of inflammatory substances also plays a role in eye, nerve, kidney and cardiovascular complications. DiaVis emphasizes robust levels of key antioxidants to bolster defenses, and provides clinically tested polyphenols to help dampen inflammation.

**DiaVis Highlights**

- Delivers key antioxidants to help combat oxidative stress and inflammation
- Contains critically important nutrients whose status may be low in diabetics
- Provides potent polyphenol blend to support small vessel & cardiovascular health
- Manufactured in NSF®-certified facilities from finest quality, bioavailable ingredients

**Oxidative Stress & Diabetes**

Diabetics are at increased risk for vision loss, and oxidative stress is a major contributing factor. Oxidative stress is an imbalance between production of reactive oxygen and the body’s ability to quench these compounds or repair resulting damage. Excess blood glucose leads to overproduction of oxygen free radicals, oxidation of glucose and excess glycosylated (sugar-bound) proteins – factors leading to the development of diabetic complications. Lower antioxidant status has been seen in type 1 and 2 diabetics and those with retinopathy. Enhanced output of inflammatory substances also plays a role in eye, nerve, kidney and cardiovascular complications. DiaVis emphasizes robust levels of key antioxidants to bolster defenses, and provides clinically tested polyphenols to help dampen inflammation.

**Rationale for Key Ingredients**

**Vitamin C (550 mg)**
Vitamin C, highly concentrated in the aqueous humor and nerve cells, is also an essential antioxidant in endothelial cells under oxidative stress. The endothelium – the cells that line blood vessels – is involved in many important functions. It helps control blood pressure through widening and constricting of vessels. High blood glucose impairs endothelial function – a prevalent issue in diabetes. Some studies link endothelial dysfunction with development or worsening of diabetic retinopathy. A meta-analysis of controlled trials found that over 500 mg vitamin C daily significantly improved endothelial function in diabetics and those with atherosclerosis. DiaVis delivers vitamin C at a level consistent with that finding.

**Alpha Lipoic Acid (300 mg)**
Alpha (α) lipoic acid is a fat and water-soluble antioxidant that plays a crucial role in the energy-producing mitochondria of cells. It regenerates other antioxidants including vitamins C, E and glutathione, a key antioxidant enzyme in eye tissue. In preclinical studies, α-lipoic acid has shown a protective effect against microvascular damage, and protection of mitochondria. α-lipoic acid is concentrated in nerve cells, and long-term trials report clinical benefit in diabetic polyneuropathy. In a 3-month controlled trial, 300 mg of α-lipoic acid stabilized contrast vision in type 1s and improved contrast vision in type 2s. α-lipoic acid may also aid weight maintenance, of particular importance for type 2s and pre-diabetics. A well-conducted controlled trial found 300 mg α-lipoic acid daily promotes significantly better weight loss than a restricted-calorie diet alone. DiaVis delivers 300 mg α-lipoic acid per day.

**Vitamin D (25 mcg)**
Vitamin D, at low blood levels, is another nutrient associated with endothelial dysfunction in type 2 diabetics. Lower blood levels have been found in type 2s, especially those with proliferative diabetic retinopathy, and are also associated with high HbA1C – the gold standard test for how well diabetes is controlled. Vitamin D fights inflammation by reducing production of pro-inflammatory compounds (interleukins). Experts calculate 25 mcg vitamin D daily is required to bring half the population into the range of serum D associated with multiple health endpoints. DiaVis supplies 25 mcg, a safe level that allows for added vitamin D from a calcium or ‘multi’ supplement.

**Thiamin (113 mg Vitamin B1, from 200 mg Benfotiamine)**
Diabetics commonly excrete more thiamin (B1) and have lower blood levels than non-diabetics. B1 plays a role in glucose metabolism, and restoring B1 levels may offer support for those at risk of kidney disease (nephropathy) or nerve damage (neuropathy). In one trial, high dose B1 reduced serum creatinine in type 2s, while another trial found that B1 lowered urinary albumin excretion in type 2s with micro-albuminuria. Benfotiamine is a form of thiamin, benfotiamine, is better absorbed and retained. In animal models of diabetes, benfotiamine blocks major pathways involved in vascular damage due to elevated blood glucose and prevents diabetic retinopathy. It may do so by protecting pericytes from effects of high glucose levels. Early loss of pericytes – cells that stabilize capillary walls – is a hallmark of retinopathy. Some, though not all, exploratory trials report benefit of benfotiamine in reducing neuropathy symptoms. The level in DiaVis is within the clinically tested range.

**Lutein (2 mg) Zeaxanthin (120 mcg)**
Lutein and zeaxanthin (L/Z) make up the retina’s macular pigment, which filters blue (visible) light that can cause photo-oxidative damage. Plasma L/Z levels are reportedly lower in those with diabetic retinopathy, and lower macular pigment density has been observed in type 2 – with or without retinopathy – compared to non-diabetics. Lutein has also been found to protect nerve cells in animal models of diabetic retinopathy. The lutein level in DiaVis doubles the average US dietary intake.

**Polyphenol Blend (680 mg) (* )**
Polyphenols are a large group of compounds found in fruits, vegetables, and spices. There are many different types of polyphenols and flavonoids, and some are emerging as potentially important in diabetes.

**Whole Grape Extract (350 mg) & Trans-Resveratrol (10 mg)**
Pre-clinical evidence suggests trans-resveratrol (found in red wine) may benefit the eye’s small vessel circulation via antioxidant and anti-inflammatory effects, and by blocking growth of abnormal blood vessels. Results of several yearlong trials indicate trans-resveratrol and procyandins in whole grape extract work together to benefit patients with diabetes, hypertension, or at high risk for CVD. In one, trans-resveratrol (8 mg) combined with whole grape extract (350 mg, no resveratrol), improved the inflammatory status and balance of clotting factors in patients (diabetes, high CVD risk) on statins, better than whole grape extract alone. Whole grape extract (350 mg) has also been shown to reduce oxidative stress in pre-diabetic patients. The level of whole grape extract and trans-resveratrol in DiaVis is consistent with those clinically tested.
**PRODUCT RECOMMENDATION**

It is recommended that DiaVis® be taken with OmegaAdvance®, a source of the omega-3 fats EPA and DHA with lutein and zeaxanthin. The ingredients in OmegaAdvance complement DiaVis by helping to guard against factors involved in detrimental changes to the retina’s vessels and nerve cells. DiaVis can be combined with any other SBH product, such as: OcularProtect®, MacularProtect Complete®, AREDS2 or Optic Nerve Formula®.

**Suggested Use:** Take a total of two capsules daily, with meals.

**Note:** Pregnant or lactating women or individuals with medical conditions should consult their physician. People with diabetes who take prescription medications should inform their primary care doctor when adding DiaVis to their daily regimen so that medication doses can be routinely monitored. Keep out of the reach of children. Eye Care Professionals: Please see www.SBH.com/dvmed for potential drug-nutrient interaction information.

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**Supplement Facts**

<table>
<thead>
<tr>
<th>Serving Size 2 capsules</th>
<th>Servings per Container 30</th>
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<tbody>
<tr>
<td>**Amount per % Daily Serv</td>
<td>** Value</td>
</tr>
<tr>
<td>Vitamin C (as ascorbic acid)</td>
<td>550 mg</td>
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<tr>
<td>Vitamin D (as cholecalciferol)</td>
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<tr>
<td>Benfotiamine (Pro-Vitamin B1, thiamin)</td>
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<tr>
<td>Polyphenol Blend</td>
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<td>VinCare® Whole Grape Extract (Vitis Vinifera) (90% polyphenols; 60% proanthocyanidins)</td>
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<tr>
<td>Longvida® Optimized Curcumin Extract (from turmeric rhizome, 23% curcuminoids)</td>
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<tr>
<td>Quercetin</td>
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<td>Bilberry Fruit Extract (25% anthocyanins)</td>
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<td>Pycongenol® French Maritime Pine (Pinus pinaster) Bark Extract (97-75% procyanidins)</td>
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<td>Myricetin (from Morella rubra bark extract)</td>
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<td>Trans-resveratrol (from Polygonum cuspidatum root extract)</td>
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<tr>
<td>Alpha Lipic Acid</td>
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<tr>
<td>Lutein (FloraGLO®)</td>
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<td>Zeaxanthin (FloraGLO®)</td>
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† Daily Value not established.

**Other Ingredients:** Bovine Gelatin, Water, Rice Flour, Magnesium Stearate, and Silicon. Contains soy.

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**REFERENCES**