Table of Potential Interactions

DiaVis® Ingredients with Diabetes-Related Medications / Tests

Ingredient	Potential Interaction (Ingredient effect on drug)	Evidence	Potential Mechanism	Comments (Including select drug effect on ingredients)	Suggested Follow-up
Vitamin C	Tests for glucose in urine: ***Not of clinical significance*** at the level of vitamin C in DiaVis.	*Large* (gram) amounts of vitamin C can cause false results in glucose urine tests. However, vitamin C levels in DiaVis are below those shown to interfere with these tests.	Increase measured by copper reduction (**Clinitest**), and decrease tested by glucose oxidase (e.g. **Clinistix)**.	Dihydropyridine calcium channel blockers including **nicardipine** and **nifedipine** inhibit vitamin C uptake by intestinal cells in-vitro. Not known whether clinically significant in humans.	None warranted.
Vitamin D	Thiazide diuretics: ***Unlikely to be of clinical significance*** when dose of D is *below* the tolerable upper intake level (UL) of 4,000 IU, as it is in DiaVis.	**Thiazide** diuretics could lead to hypercalcemia if very *high* dose vitamin D and calcium are taken concurrently. Avoid vitamin D doses above the UL in people taking vitamin D and **digoxin** concurrently.	Thiazide diuretics decrease urinary calcium excretion, while vitamin D facilitates calcium absorption.	Low vitamin D levels are very common in patients with chronic kidney disease. Some patients with renal disease or failure are treated with activated vitamin D drugs or vitamin D receptor activators.	Primary care MD may monitor serum calcium in diabetics with **renal failure** taking **activated vitamin D drugs**.
	Atorvastatin: ***Unlikely to be of clinical significance.***	Levels of atorvastatin decreased when accompanied by vitamin D in one study. Although atorvastatin levels decreased, total cholesterol, LDL, and HDL levels did not substantially change.	Vitamin D may induce cytochrome P450 3A4 enzyme in the gut, reducing bioavailability of atorvastatin.		Likely none warranted.
Vitamin B1 (Thiamin, as Benfotiamine)	***None known.***			Theoretically, **metformin** (glucophage) might reduce thiamine activity. This is based on animal research, and has not yet been substantiated in people taking metformin.	

Ingredient	Potential Interaction (Ingredient Effect on Drug)	Evidence	Potential Mechanism	Comments (Including select drug effect on ingredients)	Suggested Follow-up
Polyphenol Blend					Type-1 and 2 diabetics on insulin and/or oral anti-diabetic drugs should inform their 1°care MD that they are taking DiaVis, and routine monitoring is recommended. While individual components of the polyphenolic blend are unlikely to significantly interact with anti-diabetic medications, their collective effects are not characterized, and it is possible individuals could vary in their response to DiaVis.
VinCare® Whole Grape Extract (Proanthocyanins)	Anti-diabetic medications: ***Likely Not of clinical significance*** at dose included in DiaVis.	Two studies in type 2 diabetics using 350 mg of whole grape extract report no clinically relevant changes in blood glucose after 12 months. (Studies testing grape seed extract have reported glucose-lowering in type 2s).	Theoretically, proanthocyanins, primarly catechins, could inhibit alpha glucosidase activity or inhibit intestinal absorption of glucose.		
Longvida® Optimized Curcumin Extract	Anti-diabetic medications: ***Likely Not of clinical significance*** at dose included in DiaVis.	Animal research suggests that the turmeric constituent, curcumin, can reduce levels of blood glucose and glycosylated hemoglobin (HbA1C) in diabetics. In a human trial, 500 mg of curcuminoids for 9 mo. prevented pre-diabetics from developing type 2. In another 30 mo. trial in type 2s, 300 mg of curcuminoids reduced fasting glucose and insulin resistance.	Not clearly understood; may influence nitric oxide synthase activity. Theoretically, curcuminoids may improve beta-cell function.	Though the curuminoids in DiaVis are better absorbed than those in standard preparations, DiaVis contains a far lesser amount (40 mg) than the levels found to lower fasting blood glucose in human trials.	
Quercetin	Anti-hypertensive medications: ***Not of clinical significance*** at dose included in DiaVis.	In one study, a high level of quercetin (730 mg/day) was reported to lower blood pressure in people with mild hypertension. The level of quercetin in *DiaVis* (50 mg) is a fraction of that tested in this trial.			
Bilberry (anthocyanins)	Anti-platelet medications: ***Not of clinical significance*** at dose included in DiaVis.	Preliminary evidence suggests that high levels of anthocyanins may have anti-platelet effects. However, the levels associated with this effect are many times higher than the amount of anthocyanins in DiaVis.	Theoretically inhibits platelet aggregation.		
	Anti-diabetic medications: ***Not of clinical significance*** at dose included in DiaVis.	One study reports that a test diet high in anthocyanins, grains and omega-3 fatty acids improved glucose disposal in those with impaired glucose metabolism.	Data from animal studies suggest high anthocyanin intakes improve insulin sensitivity.		

Ingredient	Potential Interaction (Ingredient Effect on Drug)	Evidence	Potential Mechanism	Comments (Including select drug effect on ingredients)	Suggested Follow-up
Polyphenol Blend *(Continued)*					Type-1 and 2 diabetics on insulin and/or oral anti-diabetic drugs should inform their 1°care MD that they are taking DiaVis, and routine monitoring is recommended. While individual components of the polyphenolic blend are unlikely to significantly interact with anti-diabetic medications, their collective effects are not characterized, and it is possible individuals could vary in their response to DiaVis.
Trans-Resveratrol	Anti-platelet medications: ***Not of clinical significance*** at dose included in DiaVis.	Theoretically, taking high dose resveratrol (≥ 250 mg/day) with other anti-platelet or anti-coagulant drugs might increase the risk of bleeding. The level of resveratrol in DiaVis is far below that linked to any anti-platelet drug interaction.	Theoretically, inhibits platelet aggregation.		
Pycnogenol® French Maritime Pine Bark Extract (oligomeric proanthocyanins)	Anti-hypertensive and anti-diabetic medications: ***Not of clinical significance*** at dose included in DiaVis.	In a controlled trial of type-2s, pycnogenol was reported to lower blood glucose and HbA1c without altering the dosage of standard anti-diabetic drugs. In two trials with limited sample sizes of hypertensives and type-2s, Pycnogenol reportedly reduced blood pressure and use of ACE inhibitoror nifedipine.	Pycnogenol may inhibit alpha glucosidase – an intestinal enzyme involved in metabolism of carbohydrates.	The levels of Pycnogenol reported to lower blood glucose or blood pressure were 100 and 150 mg respectively – far higher than the 20 mg included in DiaVis. In DiaVis, Pycnogenol is just one component of a comprehensive blend of different polyphenols.	
Myricetin	**None known.**				
Alpha Lipoic Acid	Anti-diabetic medications: ***Not of clinical significance*** at dose included in DiaVis.	Theoretically, concomitant use of *very high* dose alpha lipoic (1200 mg) with anti-diabetic drugs might cause additive hypo-glycemic effects. But, co-administration of *high* dose alpha lipoic and **glyburide** or **acarbose** didn't cause detectable interactions in a clinical trial.			None warranted.
Lutein, Zeaxanthin	**None known.**				

- **Note:** This chart includes potential interactions with anti-diabetic medications and tests, and takes into account other drugs that are commonly used to prevent or treat diabetic complications. Agents for pain control of diabetic neuropathy include tricyclic antidepressants, serotonin reuptake inhibitors and antiepileptic drugs; Agents that are related to cardiovascular disease include cholesterol-lowering medications, anti-hypertensive medications, and drugs used to treat heart disease; Anti-hypertensive drugs are also used to prevent or treat diabetic nephropathy, and include ACE inhibitors, angiotensin II receptor blockers, diuretics, beta blockers, and calcium channel blockers.
- **Note**, also, that patients undergoing dialysis should check with their primary care physician to determine if this product is appropriate for their use.

***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.**