

Type of vitamin B1 could treat common cause of blindness

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University of Texas Medical Branch at Galveston researchers have discovered that a form of vitamin B1 could become a new and effective treatment for one of the world's leading causes of blindness.

Scientists believe that uveitis, an inflammation of the tissue located just below the outer surface of the eyeball, produces 10 to 15 percent of all cases of blindness in the United States, and causes even higher rates of [blindness](#) globally. The inflammation is normally treated with antibiotics or steroid eye drops.

In a paper appearing in the May issue of the journal *Investigative Ophthalmology and Visual Science*, however, the UTMB researchers describe striking results achieved with benfotiamene, a fat-soluble form of vitamin B1. In their experiments, they first injected laboratory rats with bacterial toxins that ordinarily produce a reaction mimicking uveitis. When those rats are fed benfotiamene, they fail to develop any signs of the inflammatory disorder.

"Benfotiamene strongly suppresses this eye-damaging condition and the biochemical markers we associate with it," said UTMB associate professor Kota V. Ramana, senior author of the study. "We're optimistic that this simple supplementation with vitamin B1 has great potential as a new therapy for this widespread eye disease."

The researchers' data shows benfotiamene works by suppressing the activation of a crucial signaling molecule called NF-kappa B, which is

normally triggered by the stress caused by infection. Shutting down NF-kappa B, they said, prevents the runaway production of inflammatory proteins that generates uveitis.

Benfotiamene's low cost, rapid absorption by the body and lack of negative side effects make it an ideal candidate for uveitis prevention, according to Ramana.

"Already, clinical trials have shown that benfotiamene is absorbed better than [thiamine](#) [the most common form of vitamin B1] and significantly improved diabetic polyneuropathy in patients, and it's already taken as a supplement for diabetic complications," Ramana said.

Source: University of Texas Medical Branch at Galveston ([news](#) : [web](#))

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