

Stable Gastric Pentadecapeptide BPC 157 in Rats with Episcleral Veins Cauterization, Glaucoma Model, Preserved Retinal and Optic Nerve Integrity

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BPC 157 (LD1 not achieved) was implemented as an anti-ulcer peptide in IBD trials and now in a multiple sclerosis trial. BPC 157 maintained corneal transparency, total debridement of corneal epithelium cured with no corneal neovascularization, perforating corneal incisions in rats successfully closed and no new vessels, providing a particular healing and vascular effect. We wanted to explore effect of BPC 157 in rats with glaucoma, induced by episcleral veins cauterization. Randomly assigned operated male Wistar rats, 250g (two dorsal episcleral veins and one temporal episcleral vein isolated from the surrounding tissues; a cautery specifically applied to the selected vein), were further studied. Medication (pentadecapeptide BPC 157 (10µg/kg) (Diagen, Slovenia) intraperitoneally) or an equivolume of 0.9%NaCl (5ml/kg) intraperitoneally (controls)) was applied immediately after surgery, and then once time daily. Histopathological retinal and optic nerve samples were obtained after sacrifice at 24h, 4 and 6-weeks interval. At 24h, 4 and 6 weeks after surgery controls exhibited ganglion cell layer and optic nerve thinning. All BPC 157 rats exhibited only slight or none ganglion cell layer or optic nerve thinning. Pentadecapeptide BPC 157 continuously counteracts the effects of episcleral veins cauterization on morphological changes of ganglion cell layer and optic nerve.