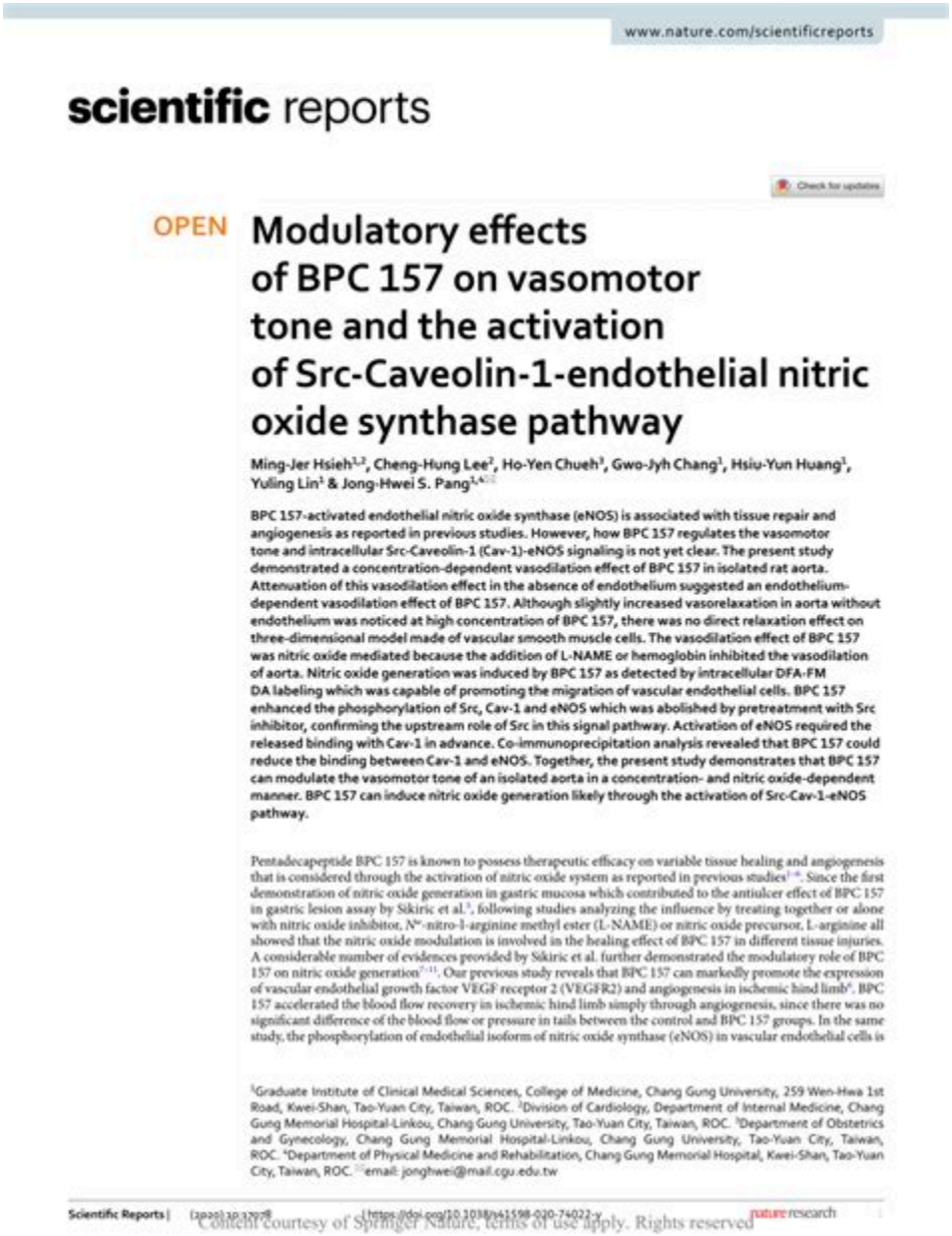
Abstract We reviewed the pleiotropic beneficial effects of the stable gastric pentadecapeptide BPC 157, three very recent demonstrations that may be essential in the gut-brain and brain-gut axis operation, and therapy application in the central nervous system disorders, in particular.

Stable Gastric Pentadecapeptide BPC 157 and Wound Healing

1 State Key Laboratory of Cancer Biology, Department of Biopharmaceutics, School of Pharmacy, Air Force Medical University, Xi . Body-protective compound (BPC) 157 demonstrates protective effects against damage to various organs and tissues. For future clinical applications, we had previously established a solid-phase synthesis process for .

Modulatory effects of BPC 157 on vasomotor tone and the . - Nature



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Modulatory effects of BPC 157 on vasomotor tone and the activation of Src-Caveolin-1-endothelial nitric oxide synthase pathway

Ming-Jer Hsieh[1,2], Cheng-Hung Lee[2], Ho-Yen Chueh[3], Gwo-Jyh Chang[1], Hsiu-Yun Huang[1], Yuling Lin[1] & Jong-Hwei S. Pang[1,4]

BPC 157-activated endothelial nitric oxide synthase (eNOS) is associated with tissue repair and angiogenesis as reported in previous studies. However, how BPC 157 regulates the vasomotor tone and intracellular Src-Caveolin-1 (Cav-1)-eNOS signaling is not yet clear. The present study demonstrated a concentration-dependent vasodilation effect of BPC 157 in isolated rat aorta. Attenuation of this vasodilation effect in the absence of endothelium suggested an endothelium-dependent vasodilation effect of BPC 157. Although slightly increased vasorelaxation in aorta without endothelium was noticed at high concentration of BPC 157, there was no direct relaxation effect on three-dimensional model made of vascular smooth muscle cells. The vasodilation effect of BPC 157 was nitric oxide mediated because the addition of L-NAME or hemoglobin inhibited the vasodilation of aorta. Nitric oxide generation was induced by BPC 157 as detected by intracellular DFA-FM DA labeling which was capable of promoting the migration of vascular endothelial cells. BPC 157 enhanced the phosphorylation of Src, Cav-1 and eNOS which was abolished by pretreatment with Src inhibitor, confirming the upstream role of Src in this signal pathway. Activation of eNOS required the released binding with Cav-1 in advance. Co-immunoprecipitation analysis revealed that BPC 157 could reduce the binding between Cav-1 and eNOS. Together, the present study demonstrates that BPC 157 can modulate the vasomotor tone of an isolated aorta in a concentration- and nitric oxide-dependent manner. BPC 157 can induce nitric oxide generation likely through the activation of Src-Cav-1-eNOS pathway.

Pentadecapeptide BPC 157 is known to possess therapeutic efficacy on variable tissue healing and angiogenesis that is considered through the activation of nitric oxide system as reported in previous studies[1–6]. Since the first demonstration of nitric oxide generation in gastric mucosa which contributed to the antiulcer effect of BPC 157 in gastric lesion assay by Sikiric et al.[3], following studies analyzing the influence by treating together or alone with nitric oxide inhibitor, N^{ω}-nitro-l-arginine methyl ester (L-NAME) or nitric oxide precursor, L-arginine all showed that the nitric oxide modulation is involved in the healing effect of BPC 157 in different tissue injuries. A considerable number of evidences provided by Sikiric et al. further demonstrated the modulatory role of BPC 157 on nitric oxide generation[7–11]. Our previous study reveals that BPC 157 can markedly promote the expression of vascular endothelial growth factor VEGF receptor 2 (VEGFR2) and angiogenesis in ischemic hind limb[6]. BPC 157 accelerated the blood flow recovery in ischemic hind limb simply through angiogenesis, since there was no significant difference of the blood flow or pressure in tails between the control and BPC 157 groups. In the same study, the phosphorylation of endothelial isoform of nitric oxide synthase (eNOS) in vascular endothelial cells is

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This review focuses on the described effects of BPC 157 on blood vessels after different types of damage, and elucidate by investigating different aspects of vascular response to injury (endothelium damage, clotting, thrombosis, vasoconstriction, vasodilatation, vasculoneogenesis and edema formation …

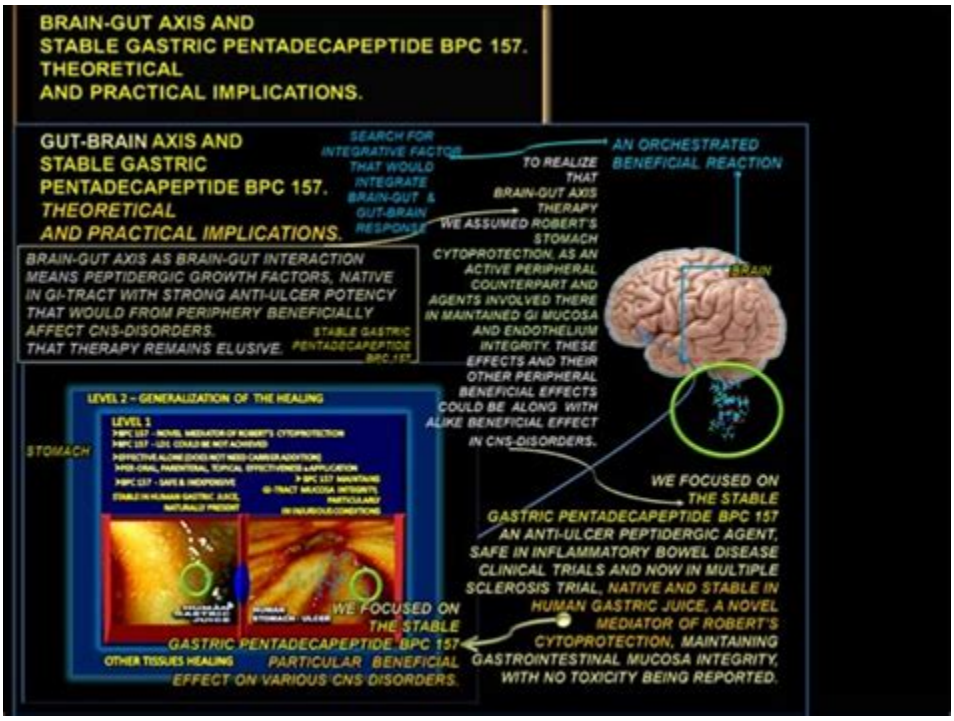
BPC 157 Cancer Risk: Exploring Potential Implications

BPC 157 has beneficial effects and thus leads to stomach cytoprotection → organoprotection of the whole gastrointestinal tract, including both prophylactic and therapeutic effects for pre-existing lesions in individuals with the most complex disturbances, such as internal and external fistulas, or anastomosis complicated with severe colitis (indicated as +1). 1-13 In addition, there is a .

BPC-157 benefits, dosage, and side effects - Examine

Here we focused on the stable gastric pentadecapeptide, BPC 157 as a potential treatment for COVID-19 patients. BPC 157 is a peptide that has demonstrated anti-inflammatory, cytoprotective, and endothelium-protecting effects in different organ systems in various species. BPC 157 has been reviewed as a likely mediator of Robert's stomach .

Brain-gut Axis and Pentadecapeptide BPC 157: Theoretical and Practical .



Effect of BPC 157 on the in vitro cancer cell viability and in vivo tumor growth. (A) Cell viability was dose-dependently reduced by BPC157 treatment for three days in hepatocellular carcinoma cells including HepG2 and Hep3B. Data were shown as mean ± SEM. * represented p-value < 0. 05 compared to control group. Experiment was repeated three times.

PDF Stable Gastric Pentadecapeptide BPC 157 and Striated, Smooth, and Heart .

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Review

Stable Gastric Pentadecapeptide BPC 157 and Striated, Smooth, and Heart Muscle

Mario Staresinic [1], Mladen Japjec [2], Hrvoje Vranes [2], Andreja Prtoric [2], Helena Zizek [2], Ivan Krezic [2], Slaven Gojkovic [2], Ivan Maria Smoday [2], Katarina Oroz [2], Eva Staresinic [2], Vilim Dretar [2], Haidi Yago [2], Marija Milavic [3], Suncana Sikiric [3], Eva Lovric [3], Lovorka Batelja Vuletic [3], Paris Simeon [4], Ivan Dobric [1], Sanja Strbe [2], Antonio Kokot [5], Josipa Vlainic [6], Alenka Boban Blagaic [2], Anita Skrtic [3,*], Sven Seiwerth [3] and Predrag Sikiric [2,*]

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Abstract: First, we review the definitively severed myotendinous junction and recovery by the cytoprotective stable gastric pentadecapeptide BPC 157 therapy, its healing that might combine both transected and detached tendon and transected muscle, ligament and bone injuries, applied alone, as native peptide therapy, effective in rat injury, given intraperitoneally or in drinking water or topically, at the site of injury. As a follow up, we reviewed that with the BPC 157 therapy, its cytoprotective ability to organize simultaneous healing of different tissues of and full recovery of the myotendinous junction might represent the particular muscle therapy against distinctive etiopathology muscle disabilities and weakness. In this, BPC 157 therapy might recover many of muscle disabilities (i.e., succinylcholine, vascular occlusion, spinal cord compression, stroke, traumatic brain injury, severe electrolyte disturbances, neurotoxins, neuroleptics, alcohol, serotonin syndrome and NO-system blockade and tumor-cachexia). These might provide practical realization of the multimodal muscle-axis impact able to react depending on the condition and the given agent(s) and the symptoms distinctively related to the prime injurious cause symptoms in the wide healing concept, the concept of cytoprotection, in particular. Further, the BPC 157 therapy might be the recovery for the disabled heart functioning, and disabled smooth muscle functioning (various sphincters function recovery). Finally, BPC 157, native and stable in human gastric juice, might be a prototype of anti-ulcer cytoprotective peptide for the muscle therapy with high curing potential (very safe profile (lethal dose not achieved), with suited wide effective range (μg-ng regimens) and ways of application).

Keywords: stable gastric pentadecapeptide BPC 157; muscle healing; therapy

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Citation: Staresinic, M.; Japjec, M.; Vranes, H.; Prtoric, A.; Zizek, H.; Krezic, I.; Gojkovic, S.; Smoday, I.M.; Oroz, K.; Staresinic, E.; et al. Stable Gastric Pentadecapeptide BPC 157 and Striated, Smooth, and Heart Muscle. *Biomedicines* **2022**, *10*, 3221. https://doi.org/10.3390/biomedicines10123221

Academic Editor: Ryota Niikura

Received: 19 October 2022
Accepted: 1 December 2022
Published: 12 December 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

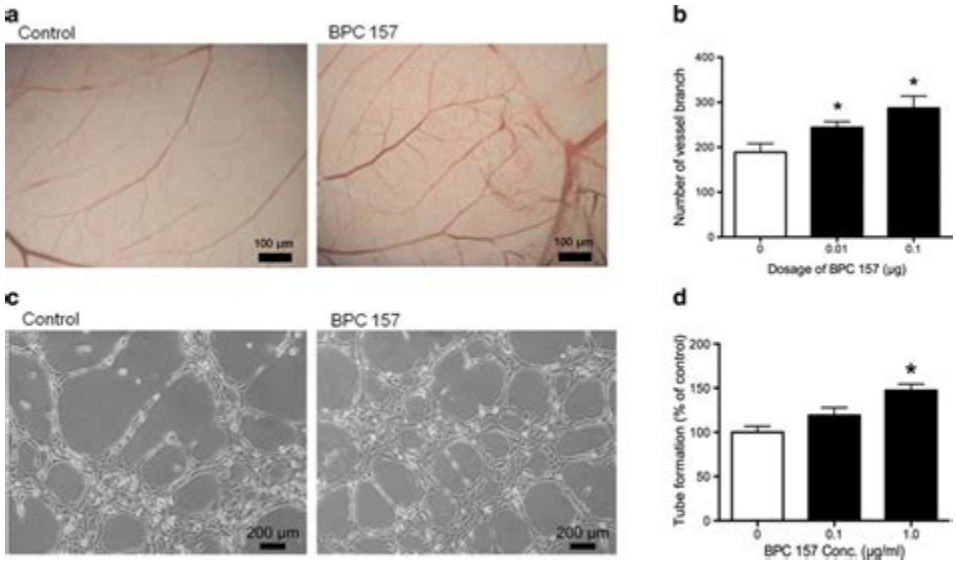
1. Introduction

This paper attempts to review, in a particular way, the stable gastric pentadecapeptide BPC 157 (for review see, i.e., [1–6]) and its effects on striated, smooth, and heart muscles.

As previously shown (for review, see [1–6]), all of the studies to date that have tested the stable gastric pentadecapeptide BPC 157 peptide—native to and stable in human gastric juice, even for periods of time longer than 24 h—as a treatment have demonstrated extremely positive healing effects for various injury types in numerous organ systems,

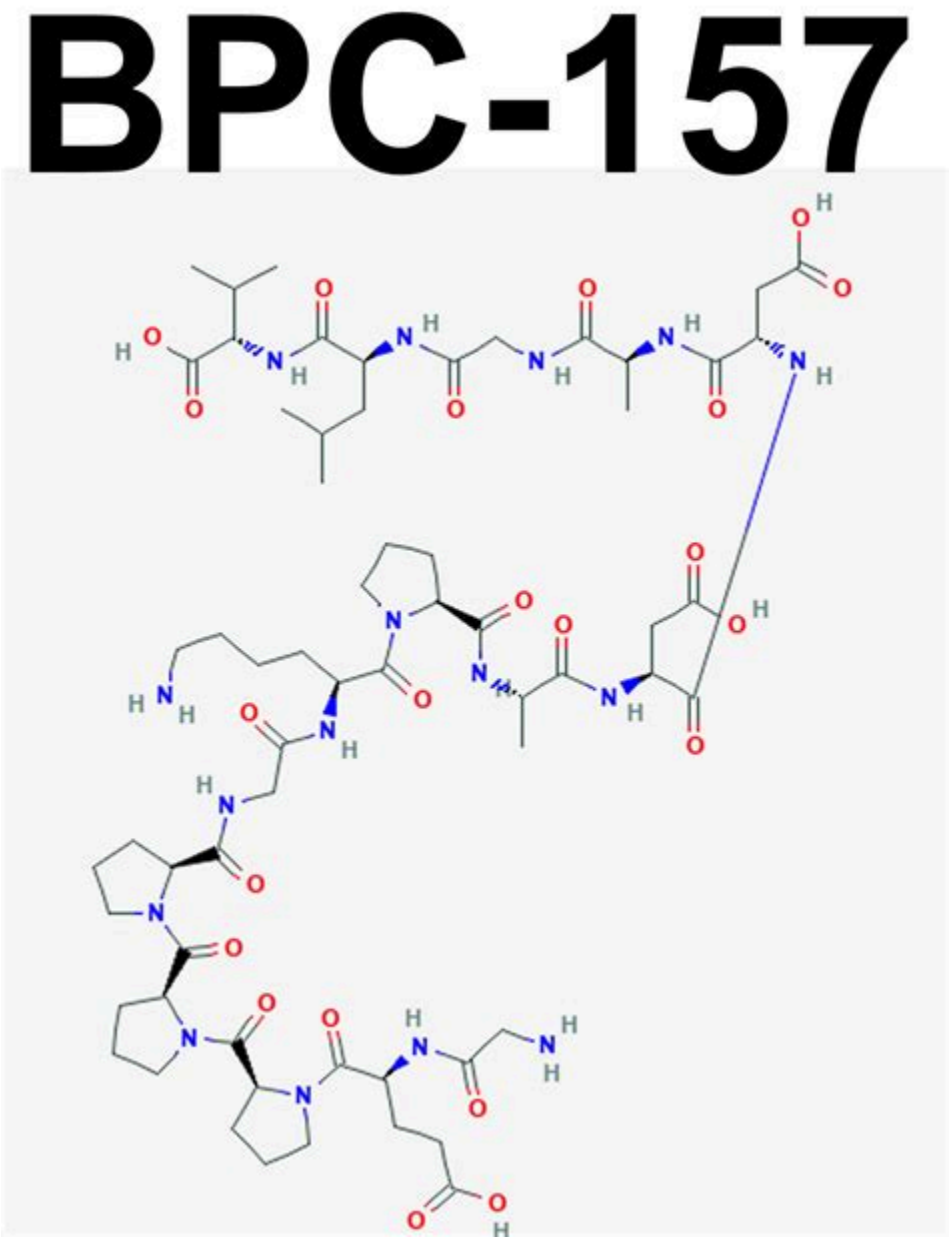
Pentadecapeptide BPC 157 is known to possess therapeutic efficacy on variable tissue healing and angiogenesis that is considered through the activation of nitric oxide system as reported in .

BPC 157 and blood vessels - PubMed



Dimitar Marinov, Ph. D. Last Updated December 10, 2023 BPC-157 Peptide researchers may have heard of the "gastric pentadecapeptide body protection compound" or BPC-157. It has been billed by some researchers as the next big thing in tissue regeneration, potentially helping test subjects recover from sprains, muscle tears, and even stomach ulcers.

How Does BPC-157 Work? - Peptide Sciences



The stable gastric pentadecapeptide BPC 157 counteracts various venous occlusion-induced syndromes. Summarized are all these arguments, in the Robert's cytoprotection concept, to substantiate the resolution of different major vessel occlusion disturbances, in particular ischemia-reperfusion injury following the Pringle maneuver and Budd-Chiari syndrome, which was obtained by BPC 157 therapy.

Bpc 157 And Cancer Risk Understanding The Correlation

BPC 157 Cancer Risk: Uncovering Potential Health Concerns

Bpc 157 And Cancer Exploring The Potential Link

Significance: The antiulcer peptide, stable gastric pentadecapeptide BPC 157 (previously employed in ulcerative colitis and multiple sclerosis trials, no reported toxicity (LD1 not achieved)), is . Pancreatic cancer and thromboembolic disease, 150 years after Trousseau. Hepatobiliary Surg. Nutr. 4, 325-335. 10. 3978/j. issn. 2304-3881. 2015 .

Stable Gastric Pentadecapeptide BPC 157 as Useful Cytoprotective .

PMID: 29898649 DOI: 10. 2174/1381612824666180614082950 Abstract Cancer cachexia, one of the metabolic syndromes caused by cancer, is a devastating and miserable condition encountered in more than 50% of terminal cancer patients presenting with significant weight loss associated with skeletal muscle atrophy and fat loss.

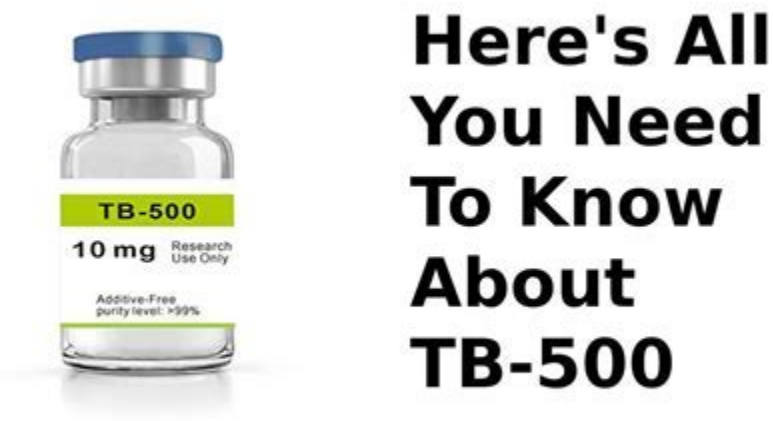
BPC 157 as Potential Treatment for COVID-19 - PMC

Note, BPC 157 therapy with counteracted heart lesions might actually improve the effectiveness of drugs used in chemotherapy for cancer patients, both solid tumors and leukemia, anthracyclines, i. e. , doxorubicin, epirubicin, and daunorubicin, otherwise markedly limited with damage to the heart [155,156,157].

Stable Gastric Pentadecapeptide BPC 157, Robert's Stomach .

The human gastric juice-derived protein labelled BPC 157, also known as Bepecin (Cox et al. 2017), PL 14736 and PL10 (Tkalčević et al. 2007) is a stable gastric pentadecapeptide that was first introduced and overviewed in the Journal of Physiology (Paris) by Sikirić et al. (). BPC 157 is a 15 amino acid fragment (Gly-Glu-Pro-Pro-Pro-Gly-Lys-Pro-Ala-Asp-Asp-Ala-Gly-Leu-Val) that is often .

BPC-157 and Cancer | What Researchers Must Know - Peptides



Here we discuss BPC 157, based primarily on animal model data, as a novel agent that can improve the clinical management of COVID-19. BPC 157 is a peptide that has demonstrated anti-inflammatory, cytoprotective, and endothelial-protective effects in different organ systems in different species. . BPC157 as Potential Agent Rescuing from Cancer .

Gastric pentadecapeptide body protection compound BPC 157 and its role .

BPC 157 may prevent, but also reverse adjuvant arthritis , counteracts aspirin-induced prolonged bleeding and thrombocytopenias , recovers lower esophageal sphincter and pyloric sphincters function, heals the intestinal anastomosis and fistulas, and improves adaptation of the intestinal wall layers after massive resection [14-21]. BPC 157 .

BPC 157 Cancer Risk: Uncovering Potential Health Concerns

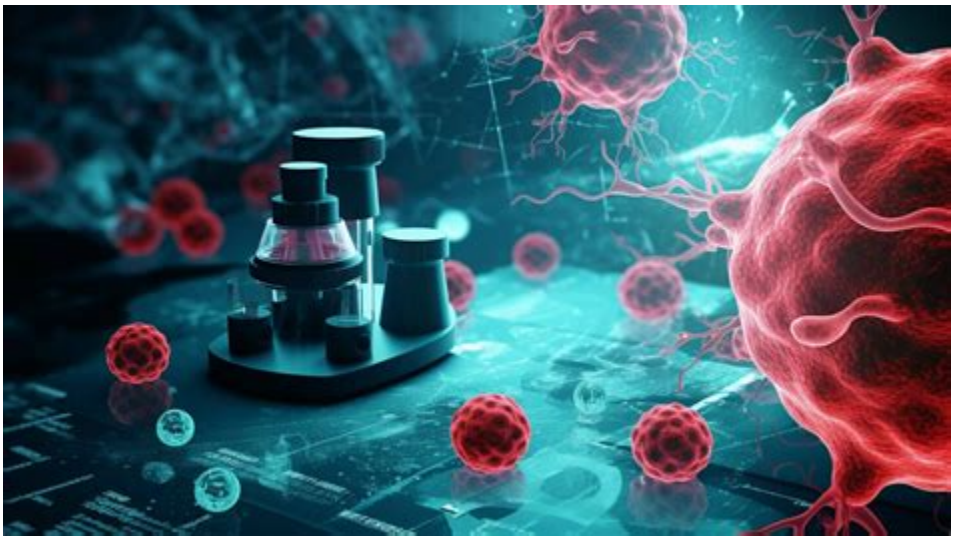
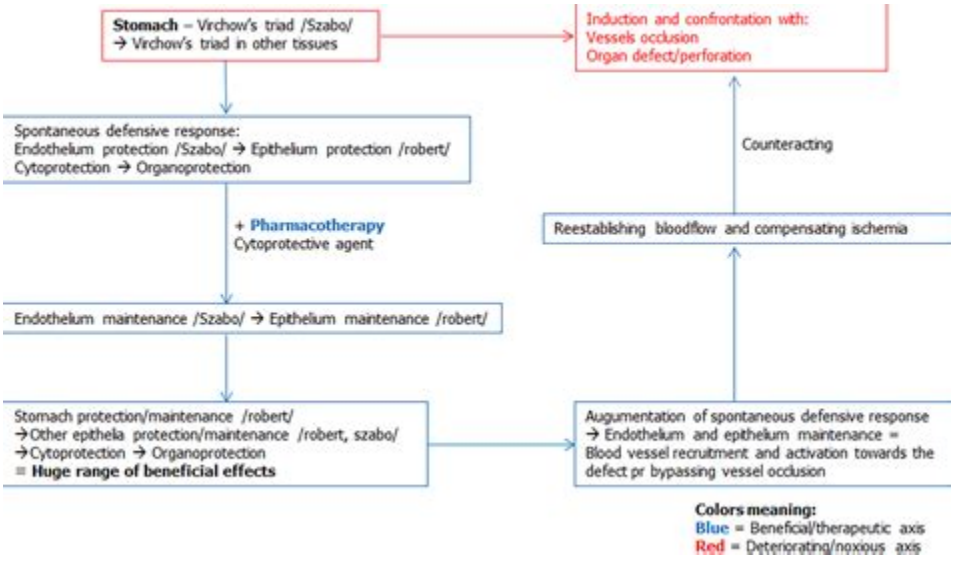


FIGURE 1. Burn skin lesions in mice and BPC 157 therapy effect. The effects of the gastric pentadecapeptide BPC 157 were investigated on deep partial skin thickness burns (1. 5 × 1. 5 cm) covering 20% of the total body area, when administered topically or systemically in burned mice (Mikus et al. , 2001). Characteristic wound presentation at one week after injury, grossly, the poor healing in the .

Cytoprotective gastric pentadecapeptide BPC 157 resolves major vessel .

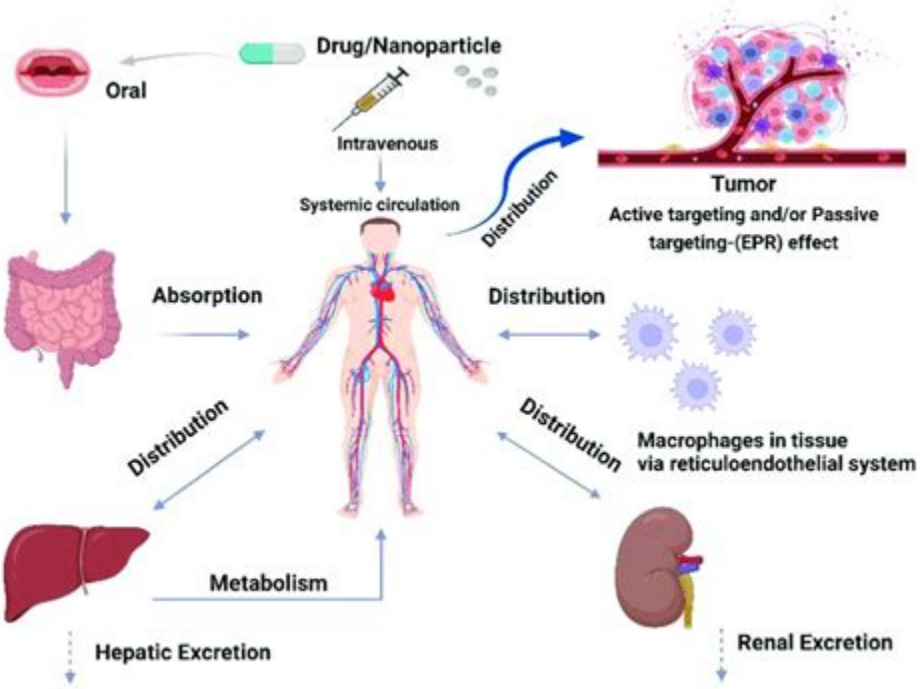


induced muscle cachexia and the signaling process implicated in cancer cachexia [10] and leaky gut [11], as well as its membrane stabilizing and free radical scavenging activities . For BPC 157, its essential gastric juice origin and stability in human gastric juice for periods of time longer than 24 h [3,4,32-34], due in particular to its .

BPC 157 as Potential Treatment for COVID-19 - ScienceDirect

Studies suggest that BPC 157 exhibits anti-inflammatory, angiogenic, and wound-healing properties that may be beneficial in cancer treatment. Additionally, BPC 157 has been shown to inhibit the growth and proliferation of cancer cells in vitro and in animal models. Mechanisms of BPC 157 in Cancer

Pharmacokinetics, distribution, metabolism, and excretion of body .



2 months ago How Does BPC 157 Work? BPC 157 is a derivative of a natural protein called body protection compound (BPC). BPC was first isolated from the digestive system where it plays an important role in protecting the stomach lining from stomach acid. Research has since revealed that the healing properties of BPC 157 extend well beyond the gut.

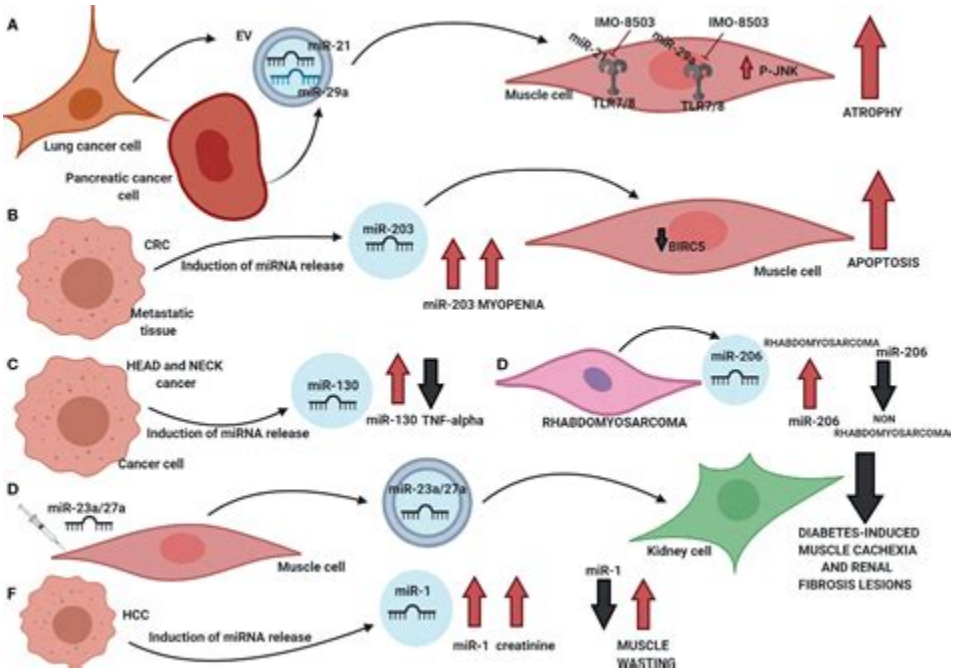
Pentadecapeptide BPC 157 efficiently reduces radiation-induced liver .

BPC-157 can be taken orally, topically, or via injection. Oral ingestion of peptides like BPC-157 wouldn't normally be expected to have a direct effect on tissues outside of the gastrointestinal tract (like tendons and nerves) because peptides aren't easily absorbed into circulation. However, studies in rodents have suggested that oral .

Stable Gastric Pentadecapeptide BPC 157 and Wound Healing

12:10 pm No Comments In this comprehensive article, we delve into the intriguing relationship between BPC 157 and cancer, uncovering its potential as a treatment option. We'll start by understanding what BPC 157 is and how it works, exploring its potential benefits in promoting healing, reducing inflammation, and protecting organs and tissues.

BPC157 as Potential Agent Rescuing from Cancer Cachexia



Bpc 157 And Cancer Risk Understanding The Correlation December 25, 2023 2:48 pm No Comments BPC 157, an intriguing peptide that has been gaining attention in the medical and scientific community, is the focal point of our discussion.

- https://publiclab.org/notes/print/44705
- https://publiclab.org/notes/print/46404
- https://player.soundon.fm/p/9b8de733-f0cd-42e8-93fd-71481ff252f3