A Collection of Studies

BPC-157

National Academy of Hypothyroidism
and Integrative Sciences

Important Disclaimer

All studies have limitations, and there is no perfect study. As with other studies, the studies mentioned below have limitations that should be considered when evaluating the efficacy of BPC 157 and determining the appropriateness of BPC 157 for consumer use. A short summary, the abstract and the entire study is provided for your review. It is strongly recommended that you read each study in its entirety to best understand the uses, risks, effects, and limitations of the data on BPC 157. While studies suggest that these are possible outcomes, The National Academy of Hypothyroidism does not endorse the use of BPC 157 for any of these conditions. These are provided for educational use only.

Some limitations of many or all the studies provided may include: The use of animal studies; being foreign studies; having variable BPC 157 administration, including oral, intraperitoneal, intravenous, local injection and transdermal; use of induced disease models on animals; use of variable treatment protocols and dosing; use different forms of outcome assessment, including clinical response, histopathological, postmortem, gross pathology, and microscopic; variable methods of statistical analysis; no study is currently of the actual brand being marketed; variable sizes and selection methods of treatment and control groups; some may have no control group, or subjects may serve as their own controls; variable study designs; wide-range of conditions tested; and small treatment and control groups. There, of course, might be other study limitations. If you find any issues or concerns that you wish to report or have any questions, please contact The National Academy of Hypothyroidism (nahypothyroidism.com). The National Academy of Hypothyroidism can put you in contact with our chief medical/scientific officer (CMO) for clarifications.

We look forward to your feedback.

Stable gastric pentadecapeptide BPC 157 heals cysteamine-colitis and colon-colon-anastomosis and counteracts cuprizone brain injuries and motor disability.

Link: https://www.ncbi.nlm.nih.gov/pubmed/24304574

Publication Date: October 2013

Journal Name: Journal of Physiology and Pharmacology

Synopsis: Studies suggest BPC 157 could be used to treat disorders of both the gastrointestinal and central nervous systems. In this study, BPC 157 was tested in two experimental models: one for inflammatory bowel disease and another for multiple sclerosis. This study suggests that BPC 157 could be equally effective in the treatment of both models. It suggests and it may be possible to have a variety of beneficial effects, counteracting functional disability related to central nervous system damage, promoting wound healing, and reducing inflammation. BPC 157 is believed to work by regulating the nitric oxide system and increasing egr-1 gene expression, which are relevant to both inflammatory bowel disease and multiple sclerosis. This study suggests BPC 157 could be useful as a therapy for both conditions. Its ability to be orally administered is particularly noteworthy as there are currently no similar treatment options for multiple sclerosis.

Stable gastric pentadecapeptide BPC 157 in the treatment of colitis and ischemia and reperfusion in rats: New insights.

Link: https://www.ncbi.nlm.nih.gov/pubmed/29358856

Publication Date: December 28, 2017

Journal Name: World Journal of Gastroenterology

Synopsis: The colon is an organ that is particularly susceptible to insufficient vascular perfusion. This study assessed BPC 157's possible ability to resolve ischemic colitis and related issues. This study suggests that BPC 157 might be able to bypass obstructions, restore blood supply and arterial interconnections, and activate collaterals. Other possible outcomes include to normalize levels of oxidative stress markers in tissues and prevent the occurrence of lesions. BPC 157 could possibly function by providing a cytoprotective effect that restores blood supply to injured regions and reduces further incidences of blood deprivation and bowel obstruction.

Pentadecapeptide BPC 157 attenuates chronic amphetamine-induced behavior disturbances

Link: https://www.ncbi.nlm.nih.gov/pubmed/11978191

Publication Date: May 2002

Journal Name: Acta Pharmacologica Sinica

Synopsis: Chronic and acute amphetamine use can result in various bodily disturbances, including failed dopamine system function and negative behavioral effects. Peptides within the gastrointestinal system have been found to interact with the body's dopamine system. This study suggests that gastric peptide BPC 157 is an example of such a peptide and that it could be possible that BPC 157 has the ability to attenuate negative behavioral disturbances associated with chronic amphetamine use. BPC 157 is thought to interact with striatal dopamine receptors to modulate the dopamine system.

Achilles Detachment in Rat and Stable Gastric Pentadecapeptide BPC 157: Promoted Tendon-to-Bone Healing and Opposed Corticosteroid Aggravation

Link: https://www.ncbi.nlm.nih.gov/pubmed/16583442

Publication Date: May 2006

Journal Name: Journal of Orthopaedic Research

Synopsis: Tendon-to-bone healing is a complex process and often requires surgical assistance. BPC 157 could possibly enhance the healing of tendon and bone, as well as other tissues. This study focused on Achilles tendon-to-bone healing. According to the Achilles functional index, BPC 157 could possibly improve the healing and biomechanical functionality of the Achilles tendon without the need for any surgical intervention. BPC 157 could possibly reduce the negative effects of corticosteroids, such as 6a-methylprednisolone. Such corticosteroids are typically used for pain relief and to accelerate an athlete's return to sport, yet aggravate the healing process. This study suggests that BPC 157 could possibly be an alternative to standard reconstructive methods used in tendon-to-bone healing.

The promoting effect of pentadecapeptide BPC 157 on tendon healing involves tendon outgrowth, cell survival, and cell migration

Link: https://www.ncbi.nlm.nih.gov/pubmed/21030672

Publication Date: October 28, 2010

Journal Name: Journal of Applied Physiology

Synopsis: This study shows that BPC 157 could possibly be capable of promoting wound healing in various parts of the body, including bone, muscle, tendons, and ligaments. Its possible ability to accelerate tendon healing is particularly noteworthy, as tendon injuries are a common result of sporting accidents. In this study, BPC 157 is suggested to promote healing of Achilles tendons. Administration of BPC 157 could possibly accelerate both the migration of tendon fibroblasts and overall tendon outgrowth. It was also suggested to have a protective role against oxidative stress, which can impede tendon healing. BPC 157 is thought to positively affect tendon healing by activating a cellular FAK-paxillin signal pathway.

Over-dose insulin and stable gastric pentadecapeptide BPC 157. Attenuated gastric ulcers, seizures, brain lesions, hepatomegaly, fatty liver, breakdown of liver glycogen, profound hypoglycemia and calcification in rats.

Link: https://www.ncbi.nlm.nih.gov/pubmed/20388953

Publication Date: December 2009

Journal Name: Journal of Physiology and Pharmacology

Synopsis: Insulin regulates the body's blood sugar. However, in high doses, insulin can cause stomach ulcers, seizures, liver damage, brain damage, and even death. Peptide therapy, specifically the administration of gastric peptide BPC 157, was used to possibly counteract these issues. Notably, regardless of whether BPC 157 was administered orally or via the bloodstream, it could possibly mitigate all types of damage. This study suggests that BPC 157 has the potential to be used as a novel therapeutic agent in the treatment of insulin-related disorders.

Brain Gut Axis-New View

Link: https://www.ncbi.nlm.nih.gov/pubmed/28029077

Publication Date: November 2016

Journal Name: Current Neuropharmacology

Synopsis: The brain-gut axis involves interactions between neurotransmitters and peptidergic growth factors. Although this axis is well known for its role in regulating digestion and other gastrointestinal functions, it is also able to affect cognitive and emotional processing. Unusual gastrointestinal system behavior can result in the dysregulation of the nervous system. In this review, notable findings related to the brain-gut axis are suggested. This includes the link between the gastrointestinal and immune systems, the effects of cannabinoids and probiotics on the body, and the possible importance of peptidergic growth factors, such as BPC 157.

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

Link: https://www.ncbi.nlm.nih.gov/pubmed/27138887

Publication Date: November 2016

Journal Name: Current Neuropharmacology

Synopsis: Brain-gut interaction is well-known for its complexity. Studies suggest BPC 157 is a gastric peptide with a suggested wide range of neuroprotective effects that contribute to this interaction. This review summarizes the existing research on BPC 157 in relation to the brain-gut axis.

Studies suggest that it could be possible for BPC 157 to positively affect a variety of bodily functions. It has been used in clinical trials for inflammatory bowel disease and multiple sclerosis. Studies suggest and it may be possible to promote the healing of central nervous system injuries, namely those affecting the somatosensory system, spinal cord, brain and nerves. BPC 157 is well-known for its possible interaction with dopaminergic, serotoninergic, GABAergic, and opioid systems. It has suggested anti-depressant effects and could be capable of counteracting catalepsy and akinesia. It also may be possible to counteract both alcohol withdrawal and alcohol-related lesions. In summary, BPC 157 could possibly be useful in the resolution of many disorders related to the central nervous system.

Effects of Pentadecapeptide BPC 157 on Experimental Rat Model of Dry Eye

Link: https://www.fasebj.org/doi/abs/10.1096/fasebj.31.1_supplement.993.3

Publication Date: April 1, 2017

Journal Name: The FASEB Journal

Synopsis: Studies suggest gastric peptide BPC 157 has been used to possibly resolve a variety ocular issues. This article suggests that it could be possible to promote wound healing of the cornea and counteract mydriasis. In this article, BPC 157 was assessed as a therapy for dry eye syndrome, a common disease that can cause varied symptoms, ranging from discomfort to blindness. Topical administration of BPC 157 was thought to clinically reduce dry eye by possibly reducing corneal lesions.

Perforating corneal injury in rat and pentadecapeptide BPC 157.

Link: https://www.ncbi.nlm.nih.gov/pubmed/25912999

Publication Date: April 22, 2015

Journal Name: Experimental Eye Research

Synopsis: Studies suggest gastric peptide BPC 157 could possibly have anti-ulcer properties and the ability to maintain mucosal integrity. It could possibly establish regenerative properties, promote healing even in severe injuries that are unable to heal spontaneously. In this study, BPC 157's possible ability to resolve corneal ulcerations was assessed. It suggests that BPC 157 could possibly accelerate the healing process, completely closing corneal defects and restoring corneal transparency. Notably, unlike the control group, BPC 157 treated eyes showed no growth of new blood vessels. The possible prevention of neovascularization suggests that BPC 157 might resolve corneal injuries by modulating VEGF expression and angiogenic reactions.

Traumatic brain injury in mice and pentadecapeptide BPC 157 effect.

Link: https://www.ncbi.nlm.nih.gov/pubmed/19931318

Publication Date: February 25, 2010

Journal Name: Regulatory Peptides

Synopsis: Traumatic brain injury is a complex type of brain damage that involves impact-related injury, followed by secondary, pathophysiological damage. Traumatic brain injury can result in disability and even death, yet means to mediate damage and promote repair are limited.
In this study, the neuroprotective properties of BPC 157 and its suggested ability to mediate traumatic brain injury-related damage were assessed. BPC 157 could have prevented immediate unconsciousness following trauma, which is critical to the treatment of traumatic brain injuries. It may have possibly reduced the severity and distribution of traumatic brain injury lesions, including hemorrhages and lacerations. This study also suggests that BPC 157 could possibly reduce the occurrence of brain bleeds and edema. In short, BPC 157 displayed possible potent neuroprotective properties that could have promoted wound healing and prevented death. This neuroprotective peptide may function by binding to a visceral receptive relay in the gut that helps regulate the central nervous system.

The antidepressant effect of an antiulcer pentadecapeptide BPC 157 In Porsolt's test and chronic unpredictable stress in rats. A comparison with antidepressants.

Link: https://www.ncbi.nlm.nih.gov/pubmed/10791689

Publication Date: March 2000

Journal Name: Journal of Physiology, Paris

Synopsis: The relationship between the gastrointestinal and central nervous systems is well established. Within this relationship, there are more specific links—such as the association between ulcerative disease and depression. Many antidepressants have been found to have secondary anti-ulcer properties, but the effect of anti-ulcer agents on mental health has not been fully investigated. This study compared the antidepressant effect of established anti-ulcer peptide BPC 157 with the antidepressants Imipramine and Nialamide.

This study suggests that BPC 157 could possibly have antidepressant activity that was comparable or better than Imipramine and Nialamide. Unlike psychostimulants, BPC 157 might not have produced any hyperactive behaviors or changes in body temperature. Interestingly, the possible positive effects of BPC 157 might have occurred faster than those of Imipramine when treating chronic stress. This may be due to the peptide's stability in gastric fluid, which can result in prolonged activity within the body. 90% of endogenous serotonin can be found in the gastrointestinal tract. BPC 157 could possibly modulate the serotonergic system to resolve stress disorders like gastrointestinal lesions and depression.

Stable gastric pentadecapeptide BPC 157: novel therapy in gastrointestinal tract.

Link: https://www.ncbi.nlm.nih.gov/pubmed/21548867

Publication Date: 2011

Journal Name: Current Pharmaceutical Design

Synopsis: Studies show BPC 157 is a stable gastric peptide with possible cytoprotective effects. It could be used as a safe, inexpensive, and effective therapeutic for a wide range of diseases. This review explored the use of BPC 157 in the treatment of periodontitis, one of the most common diseases in humans, and disorders of the esophagus, stomach, duodenum, intestine, liver and pancreas. In particular, it assessed the possible beneficial effects of BPC 157 on different organ lesions.

Studies suggest that BPC 157 could possibly have potent angiogenic, neuroprotective and cytoprotective properties. It could possibly modulate a variety of bodily systems, including the NO-system, and regulate gene expression. It could possibly correct failing esophageal and pyloric sphincters and reduce esophagitis. BPC 157 could possibly heal intestinal anastomosis and stomach, duodenum, and colon fistulas. Treatment with this peptide could be able to increase villus height, crypt depth and muscle thickness in short bowel syndrome treatment. BPC 157 was also shown to possibly affect both chronic and acute alcohol lesions and non-steroidal anti-inflammatory drug-related lesions in a positive way. BPC 157 could be possible to promote wound healing in various organ systems and could be used as a therapeutic for various gastrointestinal tract disorders.

Osteogenic effect of a gastric pentadecapeptide, BPC 157, on the healing of segmental bone defect in rabbits: a comparison with bone marrow and autologous cortical bone implantation.

Link: https://www.ncbi.nlm.nih.gov/pubmed/10071911

Publication Date: March 1999

Journal Name: Bone

Synopsis: Studies suggest that BPC 157 has established angiogenic and wound healing properties. It has been thought to interact with a variety of bodily functions involved in the healing process, including the adrenergic, dopaminergic, and immune systems. Bone healing involves both vascular and cellular processes, and often requires complex surgical techniques to promote healing. This study suggests BPC 157 may be able to heal segmental bone defects.

Intramuscular administration of BPC 157 could possibly have significant improvement in the healing of segmental bone defects, producing results comparable to autologous bone marrow or bone graft treatments. This study suggests that administration of BPC 157 might have resulted in fewer complications compared to other treatments, including a lack of extracortical new bone formation, bony hypertrophy and ectopic bone formation. BPC 157 could possibly be a promising non-invasive treatment option for bone healing.

Therapy for Unhealed Gastrocutaneous Fistulas in Rats as a Model for Analogous Healing of Persistent Skin Wounds and Persistent Gastric Ulcers: Stable Gastric Pentadecapeptide BPC 157, Atropine, Ranitidine, and Omeprazole

Link: https://www.ncbi.nlm.nih.gov/pubmed/18649140

Publication Date: January 2009

Journal Name: Digestive Diseases and Sciences

Synopsis: Inflammatory bowel disease can lead to the development of gastrointestinal fistulas. Such fistulas often involve gastric ulcers, which rarely heal without further assistance. This study focused on gastrocutaneous fistulas and their treatment through gastric peptide BPC 157 and anti-ulcer drugs Atropine, Ranitidine, and Omeprazole. This study suggests that all of the tested therapeutic agents could possibly promote gastric healing and had could have positive effects on cutaneous wounds. Listed in order of suggested effectiveness: BPC 157, Atropine, Omeprazole, and Ranitidine were useful therapeutics for gastrocutaneous fistulas. The anti-ulcer pharmaceutical agents tested were found to improve skin healing, followed by stomach mucosal healing. This study suggests that BPC 157 could possibly improve both skin and stomach healing, preventing fistula leakage and bursting. It also possibly could have worked faster than the anti-ulcer agents assessed. BPC 157 could possibly be able to resolve nonhealing gastrointestinal wounds, such as persistent gastric ulcers, better than existing anti-ulcer agents.

The influence of gastric pentadecapeptide BPC 157 on acute and chronic ethanol administration in mice.

Link: https://www.ncbi.nlm.nih.gov/pubmed/15381050

Publication Date: July 30, 2004

Journal Name: European Journal of Pharmacology

Synopsis: Studies suggest BPC 157 could possibly counteract and reverse damage caused by acute and chronic alcohol consumption, resolving stomach and liver lesions. In this study, BPC 157's suggested ability to mediate other alcohol-related issues was assessed. BPC 157 could possibly mediate acute intoxication, even in physically dependent individuals. It was also suggested that it could possibly attenuate withdrawal and withdrawal-related seizures. Injected and oral administration were thought to be equally effective, making BPC 157 a possible safe and stable method of counteracting acute and chronic alcohol-related problems.

Gastric pentadecapeptide BPC 157 promotes corneal epithelial defects healing in rats.

Link: https://www.ncbi.nlm.nih.gov/pubmed/16117343

Publication Date: June 2005

Journal Name: Collegium Antropologicum

Synopsis: Studies suggest that BPC 157 is a peptide with well-established wound healing properties. This study assessed BPC 157's possible ability to heal complex corneal wounds involving the complete removal of the corneal epithelium. BPC 157 could possibly substantially accelerate complex corneal healing, preserving transparency of the cornea. It could be possible that lesions completely disappeared within two days or less. No angiogenesis-related limitations were seen.

Toxicity by NSAIDs. Counteraction by stable gastric pentadecapeptide BPC 157.

Link: https://www.ncbi.nlm.nih.gov/pubmed/22950504

Publication Date: 2013

Journal Name: Current Pharmaceutical Design

Synopsis: Studies suggest BPC 157 is a gastric peptide that could possibly have the potential for use as an antidote against Non-steroidal anti-inflammatory drugs (NSAIDs) through counteracting their side effects. This review examined the potentially beneficial effects BPC 157 has on the body, focusing on the gastrointestinal, central nervous, immune, and circulatory systems. This unique, wide range of possible beneficial effects provides the foundation for use of BPC 157 as an NSAIDs antidote. Unlike NSAIDs, BPC 157 could possibly be safely administered in various different manners and has no known toxicity level. In short, BPC 157 could possibly be able to counteract negative NSAIDs side effects while mimicking some of their beneficial effects.

Stable gastric pentadecapeptide BPC 157 in trials for inflammatory bowel disease (PL-10, PLD-116, PL 14736, Pliva, Croatia). Full and distended stomach, and vascular response.

Link: https://www.ncbi.nlm.nih.gov/pubmed/17186181

Publication Date: December 2006

Journal Name: Inflammopharmacology

Synopsis: BPC 157 is a stable gastric peptide that has been used in clinical trials for inflammatory bowel disease. This review suggests and discusses the wide range of possible positive effects BPC 157 could have on the body, including its possible cytoprotective qualities and acceleration of wound healing. Its interaction with various bodily systems, including the nitric oxide, somatosensory, and central dopamine systems are also discussed. Most notable is BPC 157's suggested safety profile; administration causes no side effects, unlike alternative treatments for inflammatory bowel disease.

Pentadecapeptide BPC 157 positively affects both non-steroidal anti-inflammatory agent-induced gastrointestinal lesions and adjuvant arthritis in rats.

Link: https://www.ncbi.nlm.nih.gov/pubmed/9403784

Publication Date: May 1997

Journal Name: Journal of Physiology, Paris

Synopsis: Studies suggest BPC 157 could have anti-inflammatory, analgesic, and healing properties. In this study, BPC 157 was used for the treatment of chronic inflammation lesions, such as those that occur in adjuvant arthritis. Non-steroidal anti-inflammatory drugs (NSAIDs) are often used to treat arthritis and other rheumatological conditions, but can also lead to gastrointestinal lesions. For this reason, BPC 157's suggested ability to treat NSAID-induced gastrointestinal lesions was also assessed. BPC 157 could possibly be successful in treating both chronic inflammation lesions and NSAIDs-related lesions in the stomach and small intestine. The possible positive effects of BPC 157 treatment could be seen in adjuvant arthritis subjects within a few days, and continued even one year after treatment. BPC 157 is thought to promote healing by interacting with the immune system and possibly mediating inflammatory processes.

Anti-inflammatory effect of BPC 157 on experimental periodontitis in rats.

Link: https://www.ncbi.nlm.nih.gov/pubmed/20388954

Publication Date: December 2009

Journal Name: Journal of Physiology and Pharmacology

Synopsis: Studies suggest BPC 157 has anti-inflammatory and wound healing properties. It could possibly be that it is capable of healing bones, tendons, and various other tissues. In this study, BPC 157's effect on inflammation and bone resorption in subjects with periodontitis was assessed. Treatment with BPC 157 could possibly reduce bone loss and substantially decrease symptoms of periodontitis. No effect was seen on gingival blood flow or blood pressure. Although its mechanism of action is not fully understood, BPC 157 could possibly be useful as a therapeutic agent for the treatment of periodontal disease.

Dose-dependent protective effect of BPC 157 on capsaicin-induced rhinitis in rats.

Link: https://www.ncbi.nlm.nih.gov/pubmed/9065615

Publication Date: 1997

Journal Name: European Archives of Oto-rhino-laryngology

Synopsis: This study investigated the effects of BPC 157 on mast cell activation.

Capsaicin is a neurotoxin that can induce rhinitis, which leads to a variety of parasympathetic, vascular, secretory, and immune responses. Studies suggest BPC 157 has previously been shown to modulate immune system function by reducing polymorphonuclear leukocyte infiltration in capsaicin-induced rhinitis. In this study, BPC 157's possible protective effect was assessed in subjects with capsaicin-induced rhinitis. BPC 157 could possibly prevent mastocyte infiltration and reduce polymorphonuclear leukocyte infiltration. The effects of BPC 157 may be comparable to that of mast cell stabilizers, such as cromolyn.

The effect of a novel pentadecapeptide BPC 157 on development of tolerance and physical dependence following repeated administration of diazepam.

Link: https://www.ncbi.nlm.nih.gov/pubmed/10707891

Publication Date: September 30, 1999

Journal Name: The Chinese Journal of Physiology

Synopsis: Diazepam is a pharmaceutical that is commonly used for the treatment of anxiety, alcohol withdrawal, muscle spasms, and seizures. It works by acting on GABA (neurotransmitter gamma-aminobutyric acid) receptors in the brain. However, diazepam-induced tolerance and withdrawal can cause serious side effects, including physical dependence and convulsions. This study assessed BPC 157's effect on the development of diazepam-related tolerance and dependence. Treatment with BPC 157 possibly postponed diazepam-related dependence and withdrawal. When Diazepam and BPC 157 were administered in conjunction with one another, diazepam's anticonvulsive effects could last longer. BPC 157 is thought to counteract the effects of diazepam-related tolerance and withdrawal by modulating the GABA receptor complex and enhancing GABAergic transmission.

A novel pentadecapeptide, BPC 157, blocks the stereotypy produced acutely by amphetamine and the development of haloperidol-induced supersensitivity to amphetamine.

Link: https://www.ncbi.nlm.nih.gov/pubmed/9547930

Publication Date: April 1, 1998

Journal Name: Biological Psychiatry

Synopsis: Studies suggest BPC 157 is a gastric peptide that could have healing properties. Its possible ability to resolve lesions throughout the gastrointestinal and central nervous systems implies that it could interact with the body's dopamine system. Studies suggest BPC 157 does not affect the psychopharmacology or behavior of healthy subjects. However, it could possibly mediate amphetamine-related disturbances, including increased excitability and behavioral disturbances. This study suggested that treatment with BPC 157 and dopamine antagonist haloperidol, resulted in an almost complete reversal of such disturbances, providing evidence that BPC 157 could possibly modulate the dopamine system. The effects of this peptide may also be related to an interaction with the glutaminergic system.