



**SPARTALIFE**  
FITNESS

# **PEPTIDE**

Basics \_\_\_\_\_

## Educational Purpose Only

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This document and the information contained herein are intended for educational purposes only. It serves to provide an overview of various research and anecdotal protocols that have been explored in the study of specific peptides. The descriptions and examples provided do not constitute medical advice and should not be used as a basis for self-treatment or clinical application. The intent is to inform and educate readers about the potential research applications of peptides, allowing for a better understanding of their ongoing studies and discussions within the scientific community.



## Consult Healthcare Professionals

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It is crucial for anyone considering the use of peptides for any purpose to consult with a licensed healthcare professional. This is especially important due to the complex nature of peptide use and its potential impacts on health. A qualified medical provider can offer personalized advice, ensure that any use of peptides is appropriate based on individual health conditions and goals, and provide legal medical guidance. This consultation is vital to navigating the use of peptides safely and effectively, ensuring that all potential health implications are thoroughly assessed.



## Refer to Scientific Research

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When discussing peptides and their applications, it is important to refer to scientific research. This document highlights protocols and dosages that have been explored in various studies or reported anecdotally by users within research settings. Readers are encouraged to review the original research papers, clinical trial results, and scientific reviews available in peer-reviewed journals to verify information and gain a deeper understanding of the context and results of these studies. Engaging with the scientific literature not only provides a solid foundation for understanding but also ensures that discussions about peptides are grounded in verified research rather than speculation or unsourced information.

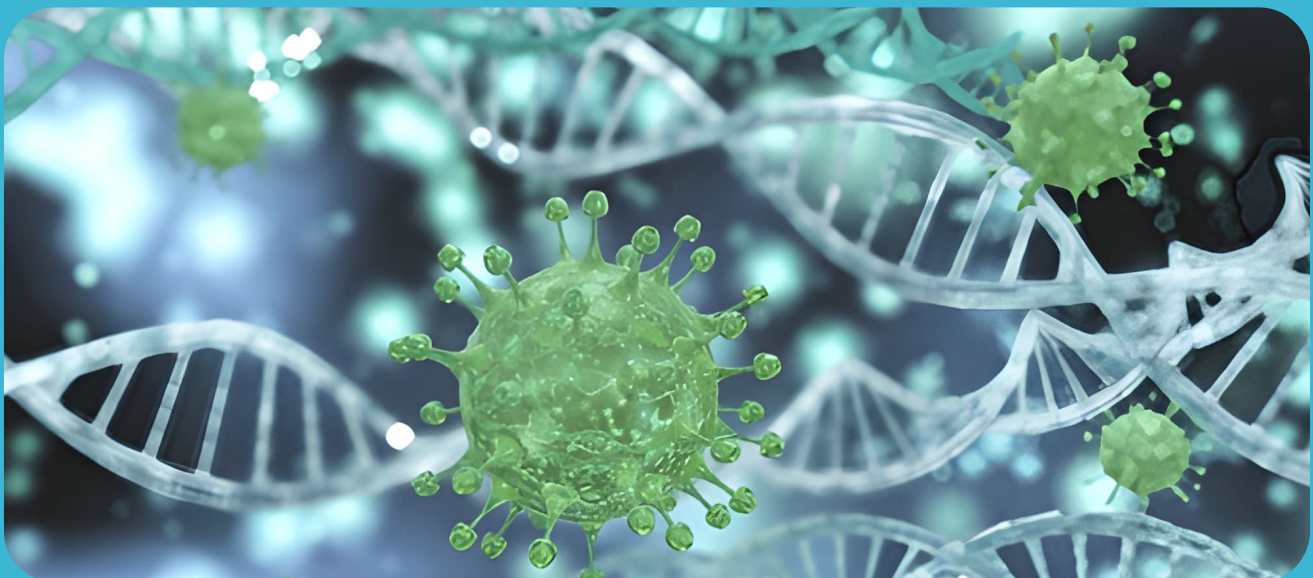
## Legal and Ethical Use

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The legal and ethical use of peptides is paramount. Peptides often fall under strict regulatory oversight due to their potential medical implications and the risks associated with their misuse. In this document, we underscore the importance of adhering to all applicable laws and regulations governing the use of research peptides. This includes respecting the guidelines set forth for research use only (RUO) and ensuring that any discussion or application of peptides is conducted in accordance with ethical standards. By promoting legal and ethical practices, we aim to support the integrity of research activities and protect the well-being of all individuals involved.

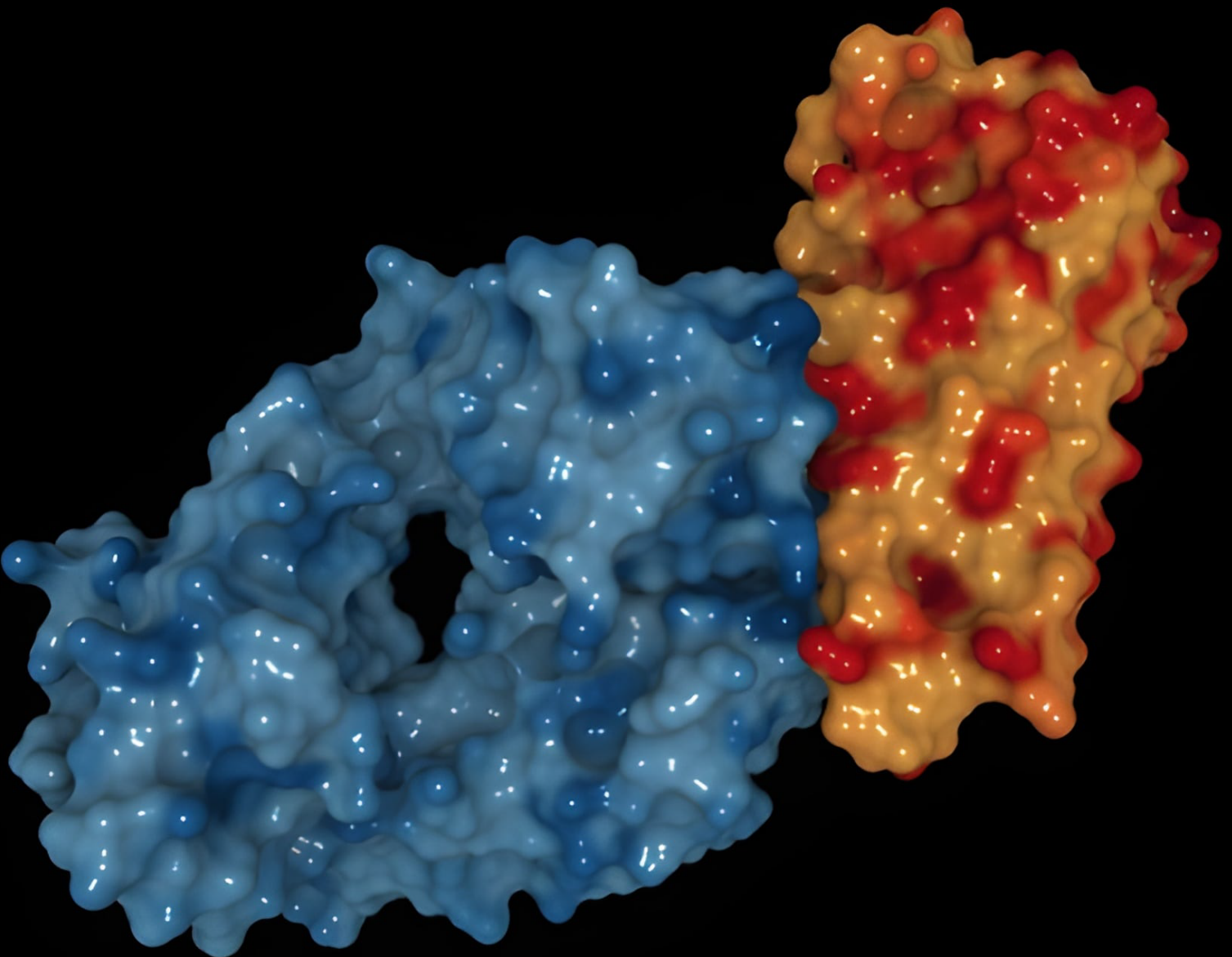
### Why does it say for research only?

Therapeutic peptides are in an interesting space similar to where dietary supplements were in the 90's before DSHEA laws that protected supplements. This is the way peptides can be purchased directly in the current environment.



## Peptide Storage

Our peptides are powder form and stable at ambient temperatures for several years. Most peptides are stable for several years at 4 degrees C and out of intense light. Once our peptides are reconstituted with bacteriostatic water, they should be stored in the refrigerator and used within 30-60 days.



## Peptide Instructions

1. Peptides arrive in powder form (inactivated)
2. Add bacteriostatic water with reconstitution syringe (follow your instructions) 3. Reconstituted peptides in liquid form are active (store in fridge - good up to 60days) \*Mark vial with date you reconstituted or opened water.
3. For injection: pick an area with fat that you can pinch: belly, hip, buttock, back of arm. Swab skin with rubbing alcohol and allow to dry for 15 seconds (cleans bacteria off surface of the skin). Pinch skin + fat. Inject insulin syringe needle, push, pull out and place orange safety cap on needle.
4. Be aware: some injections may hurt a little more than others. You can purchase topical numbing cream if desired. If area ever gets red and irritated, watch. This should resolve in 1-3 days. If not, you may need to be seen if any bacteria was accidentally pushed under the skin during injection. Why alcohol swab is important prior to injection to clean bacteria off the surface of the skin.



## TIRZEPATIDE: EFFECTIVE WEIGHT LOSS

Among research circles and anecdotal reports from peptide enthusiasts, GLP-1 & GIP's have been shown to decrease food noise (belly to brain chatter about desire for food). Increase metabolic health. Increases insulin sensitivity. Reduces inflammation. Increase cardiovascular health (lower cholesterol, cardio inflammation, reducing risk of heart attack and stroke, heart failure). Reducing inflammation: GI, autoimmune conditions, pain and more. Balancing immune function: in addition to autoimmunity, tirzepatide reduces severity of illness from upper respiratory infections. Peri/menopause symptom relief: low dose can help to reduce the severity of peri/menopause symptoms.

### Weight Loss Dosing

Among research circles and anecdotal reports from peptide enthusiasts, a common protocol that is often discussed involves administering 2.5mg (25 units) per week via injection. Can increase to 5mg (50 units) per week via injection but better to stack with other peptides to achieve health goals. \*If sensitive to substances you can always do first week of 1.2mg (12.5 units).

Individuals will likely need to use tirzepatide for 3-6 months to achieve weight loss goals in addition to stabilizing and getting the body comfortable with the new set point weight.



Once goal weight has been accomplished, experimenting with decreasing dose to 1-2mg per week can be done and watch for weight stabilization and eventual wean off peptide.

### Micro-dosing

Among research circles and anecdotal reports from peptide enthusiasts, a common protocol that is often discussed involves administering 0.5 mg (5 units) per week for inflammation, gut issues, women in peri/menopause, supporting cardiovascular health, brain health and overall metabolic health (fasting insulin, A1C, blood glucose, uric acid) can be helpful.



### Cycling

Among research circles and anecdotal reports from peptide enthusiasts, some individuals have shown to do well cycling peptides like tirzepatide 3 months on, 1-2 months off, 3 months on, 1-2 months off, 3 months on.

## **TIRZEPATIDE: EFFECTIVE WEIGHT LOSS**

<b>Powder form</b>	<b>Bacteriostatic water added</b>	<b>Strength mg/mL</b>	<b>Dose</b>	<b>Frequency</b>	<b>Supply</b>
10m vial	1 mL	10mg/mL	0.5mg (5 units)	weekly	20 weeks
10m vial	1 mL	10mg/mL	2.5mg (25 units)	weekly	4 weeks
10m vial	1 mL	10mg/mL	5mg (50 units)	weekly	2 weeks

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### **Prioritize protein**

- 1 gram of protein per pound of ideal body weight. This will be hard in the first month. Aim for 100 grams daily or 33 grams breakfast, lunch, dinner.

### **Bowel movement daily.**

- Use magnesium oxide or magnesium citrate (CALM powder is great) to assist with bowel movement as needed. 200-500mg daily.

### **Fiber**

- It's important to get enough fiber from vegetables, fruit, legumes, nuts, seeds.

## Hydration

- It's important to not only stay hydrated with adequate water but also use electrolytes to keep your energy up, optimize blood pressure, kidney health and fat burning.
- Aim for 1/2 -1 ounce per pound of IDEAL body weight. Ex: 150lbs = 75-150 ounces based on exercise, activity level, heat exposure

## Exercise

- Weight lifting 2-3 times per week to maintain and BUILD lean muscle.
- Moderate cardio as desired: walking, biking, exercise class, swimming, etc.
- Do not push too hard in the beginning as caloric intake will be lower first 1-2 weeks.

## Constipation

It is important to have a daily bowel movement while using tirzepatide. Individuals with severe constipation need to get their bowels moving before use. This includes water, fiber, magnesium, probiotics, avoiding processed foods.

## Acid reflux

Some individuals may notice an increase in symptoms and should avoid trigger foods and beverages

## Nausea

Some individuals may notice slight nausea when they start, it should improve after the first few days.

## **TIRZEPATIDE**

### **Tirzepatide Once Weekly for the Treatment of Obesity in Adults Without Diabetes (SURMOUNT-1).**

*Jastreboff, A.M., et al. New England Journal of Medicine (2022). DOI: 10.1056/NEJ-Moa2206038*

### **Efficacy and Safety of Tirzepatide in Patients with Type 2 Diabetes: A 40-Week, Phase 3, Randomized, Double-Blind, Multicenter, Placebo-Controlled Trial.**

*Frias, J.P., et al. The Lancet (2021). DOI: 10.1016/S0140-6736(21)01404-4*

### **Tirzepatide Versus Semaglutide Once Weekly in Patients with Type 2 Diabetes (SURPASS-2).**

*Ludvik, B., et al. The New England Journal of Medicine (2021). DOI: 10.1056/NEJ-Moa2107519*

### **Tirzepatide versus Insulin Degludec as Add-On Therapy in Patients with Type 2 Diabetes Inadequately Controlled on Oral Hypoglycemic Agents (SURPASS-3).**

*Del Prato, S., et al. Diabetes Care (2021). DOI: 10.2337/dc21-0898*

### **Tirzepatide for the Treatment of Type 2 Diabetes: A Review of Recent Data.**

*Rosenstock, J., et al Diabetes, Obesity & Metabolism (2021). DOI: 10.1111/dom.14350*

### **Effect of Tirzepatide Versus Insulin Glargine on Glycemic Control and Body Weight in Patients with Type 2 Diabetes on Metformin (SURPASS-4).**

*Dahl, D., et al. JAMA (2021). DOI: 10.1001/jama.2021.18306*

### **Tirzepatide in People with Type 2 Diabetes Who Are Overweight or Have Obesity: An Integrated Analysis of Efficacy and Safety. Coskun, T., et al.**

*Diabetes, Obesity & Metabolism (2022). DOI: 10.1111/dom.14647*

### **Tirzepatide as a Novel Dual GIP/GLP-1 Receptor Agonist for the Treatment of Type 2 Diabetes and Obesity.**

*Kahn, S.E., et al. Nature Reviews Endocrinology (2021). DOI: 10.1038/s41574-021-00494-x*

**Tirzepatide Reduces Cardiovascular Risk Factors in Patients with Type 2 Diabetes: A Secondary Analysis from the SURPASS Trials.** *Giorgino, F., et al. Circulation (2022). DOI: 10.1161/CIRCULATIONAHA.121.057184*

### **Tirzepatide for Weight Loss in Patients with Obesity: A Comprehensive Meta-Analysis of Randomized Controlled Trials.**

*Wilding, J.P.H., et al. Obesity Reviews (2022). DOI: 10.1111/obr.13413*



## CJC-1295: LEAN MUSCLE & PERFORMANCE

Among research circles and anecdotal reports from peptide enthusiasts, CJC-1295 has been shown to increase lean muscle mass and strength, especially in individuals 40+. Improve athletic performance (endurance, recovery and muscle repair). Fat loss (utilization of fatty acids and fat metabolism). Improve bone density & skin elasticity. Less soreness and pain after workouts.

### Suggested Protocol

Among research circles and anecdotal reports from peptide enthusiasts, a common protocol that is often discussed involves administering 30 minutes before bed on an empty stomach. On for a month, off for a month or use for several months if training for an event or trying to lose weight and gain muscle.

Powder form	Bacteriostatic water added	Strength mg/mL	Dose	Frequency	Supply
5mg vial	2 mL	2.5mg/mL	0.25mg (10 units)	5 days on 2 days off	4 weeks

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Anyone with high histamine could experience heightened allergy symptoms. Limit high histamine foods and drinks when starting: Wine, Beer, Kombucha, Aged cheese, Sauerkraut, Yogurt, Keifer, Kimchi, Citrus, Fruit, Tomatoes. \*Trizepatide works wonderfully as a mast cell stabilizer for individuals with histamine issues.

Among research circles and anecdotal reports from peptide enthusiasts, some individuals experience BETTER sleep, while others have WORSE sleep for the first 1-2 weeks. The body tends to adjust.

## Prioritize protein

- 1 gram of protein per pound of ideal body weight. Aim for at least 100 grams daily or 33 grams breakfast, lunch, dinner.
- Building blocks of lean muscle mass, blood sugar stabilization, anabolic stimulation.

## Exercise

- Weight lifting 2-3 times per week to maintain and BUILD lean muscle.

## Hydration

- It's important to not only stay hydrated with adequate water but also use electrolytes to keep your energy up, optimize blood pressure, kidney health and fat burning.
- Aim for  $\frac{1}{2}$  -1 ounce per pound of IDEAL body weight. Ex: 150lbs = 75-150 ounces based on exercise, activity level, heat exposure.

## Minimize blue light at night

Inhibits melatonin release. Melatonin released then GH from brain at night.

## Among research circles and anecdotal reports from peptide enthusiasts, some potential minor symptoms with use

Flushing, nausea, headaches, abdominal pain, dizziness for 1-2 hours.

## **CJC-1295**

### **Effects of the GHRH Analog CJC-1295 on GH and IGF-I Secretion and Body Composition in Male Mice.**

*Ionescu, M., Frohman, L.A. Journal: Growth Hormone & IGF Research (2007).DOI: 10.1016/j.ghir.2007.07.002*

### **CJC-1295 Combined with Ghrelin Agonist Enhances Growth Hormone Secretion and Body Composition in Healthy Adults.**

*Lungu, C., Robertson, D., et al.Clinical Endocrinology (2011). DOI: 10.1111/j.1365-2265.2011.04131.x*

### **The Synergistic Effect of CJC-1295 and Ipamorelin on Growth Hormone Secretion and Lean Mass in Resistance-Trained Athletes.**

*Kim, Y., Lee, H. Journal of Strength and Conditioning Research (2018). DOI: 10.1519/JSC.0000000000002955*

### **CJC-1295: Pharmacokinetics and Growth Hormone Stimulatory Effects in Healthy Volunteers.**

*Walker, R., D'Angelo, L., et al.Clinical Pharmacology in Drug Development (2004). DOI: 10.1016/j.cpha.2004.06.011*

### **CJC-1295 Increases Serum Growth Hormone Levels in Obese Adults: A Placebo-Controlled, Double-Blind Study.**

*Teichman, S., et al.Obesity (2010).DOI: 10.1038/oby.2010.45*

### **Impact of CJC-1295 on Sleep Quality and Growth Hormone Levels in Aging Men.**

**Arnal, S., et al.Journal of Gerontology:**

*Biological Sciences (2012). DOI: 10.1093/gerona/glr225*

### **CJC-1295 and Its Role in Muscle Hypertrophy and Fat Loss in Trained Athletes.**

*Rothman, M.S., et al Hormone Research in Paediatrics (2014).*

*DOI:10.1159/000365235*

### **The Long-Term Effects of CJC-1295 on Lean Body Mass and Body Fat in Postmenopausal Women.**

*Munoz, A., et al.. Menopause (2017). DOI: 10.1097/GME.0000000000000947*

### **CJC-1295, A Long-Acting Analog of Growth Hormone-Releasing Hormone, Increases Plasma Growth Hormone and Insulin-Like Growth Factor-I Levels in Healthy Adults.**

*Teichman, S.L., Neale, A., Lawrence, B., et al. The Journal of Clinical Endocrinology & Metabolism (2006). DOI: 10.1210/jc.2005-1536*

### **A Novel Long-Acting Growth Hormone-Releasing Hormone Analog (CJC-1295) Enhances Growth Hormone Secretion in Rats. Lauzon, D.A., Yuen, R., Serri, O., et al. Endocrinology (2005). DOI: 10.1210/en.2005-0569**



# **BPC-157: RAPID HEALING AND REPAIR**

Among research circles and anecdotal reports from peptide enthusiasts, there are many ways to use BPC-157 for overall healing, gut healing, overall repair for aches and pains, general inflammation and repair to injury recovery injected in a specific area of the body.

BPC-157 has also been shown to be helpful in the recovery of viral and bacterial infections including respiratory infections, lung recovery and inflammatory balance. BPC-157 + TAI is great for post COVID, pneumonia, upper respiratory infection, GI viral recovery.

## **Healing Protocol**

Among research circles and anecdotal reports from peptide enthusiasts, a common protocol that is often discussed involves administering inject locally near injured site - 2-3x foundational dose. 0.5mg (10 units) - 1mg (20 units) daily for injury, wound healing: 5 days on, 2 days off. Then move to foundational protocol

<b>Powder form</b>	<b>Bacteriostatic water added</b>	<b>Strength mg/mL</b>	<b>Dose</b>	<b>Frequency</b>	<b>Supply</b>
10mg vial	2 mL	5mg/mL	0.75mg (15 units)	5 days on 2 days off	2-3 weeks

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## Foundational Protocol

Among research circles and anecdotal reports from peptide enthusiasts, a common protocol that is often discussed involves administering 0.25mg (5 units): 5 days on, 2 days off. 6 weeks on, 2-3 weeks off. Assess and decide based on need.

Powder form	Bacteriostatic water added	Strength mg/mL	Dose	Frequency	Supply
10mg vial	2 mL	5mg/mL	0.25mg (5 units)	5 days on 2 days off	2-3 weeks

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## Lifestyle Support

- Collagen peptides 10-20 grams daily for connective tissue health.
- Heat and cold therapy for injury.
- Immunoglobulins and probiotics for gut.
- Physical therapy or fixing the underlining issue.

## Among research circles and anecdotal reports from peptide enthusiasts, people experienced

- Pain relief from BPC-157 can be almost immediate. Be careful not to overwork your injury!!!
- Healing will take several weeks to maybe months of a few rounds of BPC-157. Be patient, be careful.
- If weight gain is a concern due to injury and lack of movement, consider Tirzepatide.

## **BPC-157**

**Gastroprotective Peptide BPC 157 Enhances Ligament Healing.** *Staresinic, M., Petek, M., Prkacin, I., et al. Journal of Applied Physiology (2003)DOI: 10.1152/jappphysiol.00679.2002*

**BPC 157 and Bone Healing: Experimental Studies in Fracture Healing.**

*Sikiric, P., Seiwerth, S., et al. Bone and Joint Research (2015) DOI:10.1302/2046-3758.412.2000508*

**BPC-157 and Wound Healing: The Impact on Cutaneous Wounds.** *Tkalcevic, T., Cuzic, S., Parnham, M.J., et al. Wound Repair and Regeneration (2004). DOI: 10.1111/j.1067-1927.2004.12108.x*

**BPC 157 Therapy Accelerates Muscle and Tendon Healing.**

*Sikiric, P., et al. International Journal of Molecular Sciences (2017). DOI: 10.3390/ijms18091861*

**BPC 157 as a Cardiovascular Protective Agent: Effects on Blood Vessel Healing.**

*Sikiric, P., Seiwerth, S., et al. Cardiovascular Research (2009). DOI: 10.1093/cvr/cvn245*

**BPC-157 and Nerve Regeneration: Promoting Healing in Peripheral Nerve Injury.**

*Brcic, L., Sever, M., et al. Neuroscience Letters (2018). DOI: 10.1016/j.neulet.2018.05.046*

### **Bone Regeneration and BPC 157: Insights into Bone Repair Mechanisms.**

*Vrdoljak, T., et al. Clinical Orthopaedics and Related Research (2014). DOI: 10.1007/s11999-014-3659-y*

### **BPC-157 in Treating Ligament Injuries: Evidence from Experimental Models.**

*Sikiric, P., Seiwerth, S., et al. Experimental Biology and Medicine (2015). DOI: 10.1177/1535370215584939*

### **BPC-157 and Cardiovascular Repair: Reducing Myocardial Damage in Ischemia Models.**

*Sikiric, P., et al. Cardiovascular Drugs and Therapy (2010). DOI: 10.1007/s10557-010-6240-2*

### **The Influence of BPC 157 on the Healing of Transected Rat Achilles Tendon.**

*Zoricic, I., Brcic, L., Brcic, I., et al. Journal of Orthopaedic Research (1999). DOI: 10.1002/jor.1100170115*



# Thymosin alpha 1: Immunity Super Charger

## Overview

Thymosin alpha 1 (Ta1) is 28 amino acid peptide derived from the thymus gland. It is a potent immune modulator and has gained significant attention in immunological research due to its wide range of activities, including antiviral, antibacterial, antifungal, and antitumor properties. Ta1 is approved for clinical use in several countries, particularly for treating chronic hepatitis B and C, and as an adjuvant therapy in immune-compromised states.

Benefits	Mechanism of Action
<ul style="list-style-type: none"><li>• Immune Regulation</li><li>• Anti-viral</li><li>• Anti-fungal and bacterial via dendritic cell action</li><li>• Anti-tumor</li><li>• Adjuvant to cancer therapy (breast, liver, lung, colon, melanoma)</li></ul>	<ul style="list-style-type: none"><li>• Enhance T Cell Maturation and Function</li><li>• Enhance Dendritic Cell Function</li><li>• Enhance Antibody Response</li><li>• Increase CD4/CD8</li><li>• Modulate Cytokines and Chemokines</li></ul>

### 1. Antiviral Properties

Ta1 enhances the innate immune response to viral infections by promoting the activity of natural killer (NK) cells and cytotoxic T lymphocytes. Studies have shown its efficacy in reducing viral

respiratory infections such as influenza and COVID-19. Mechanistically, Ta1 upregulates interferon-alpha (IFN- $\alpha$ ) and other cytokines critical for antiviral defense.

- A clinical trial demonstrated the efficacy of Ta1 in reducing HBV DNA levels in chronic hepatitis B patients (ClinicalTrials.gov Identifier: NCT00006292).
- Its role as a potential adjunctive therapy in COVID-19 was noted in studies emphasizing Ta1's ability to modulate cytokine storms and prevent severe complications.

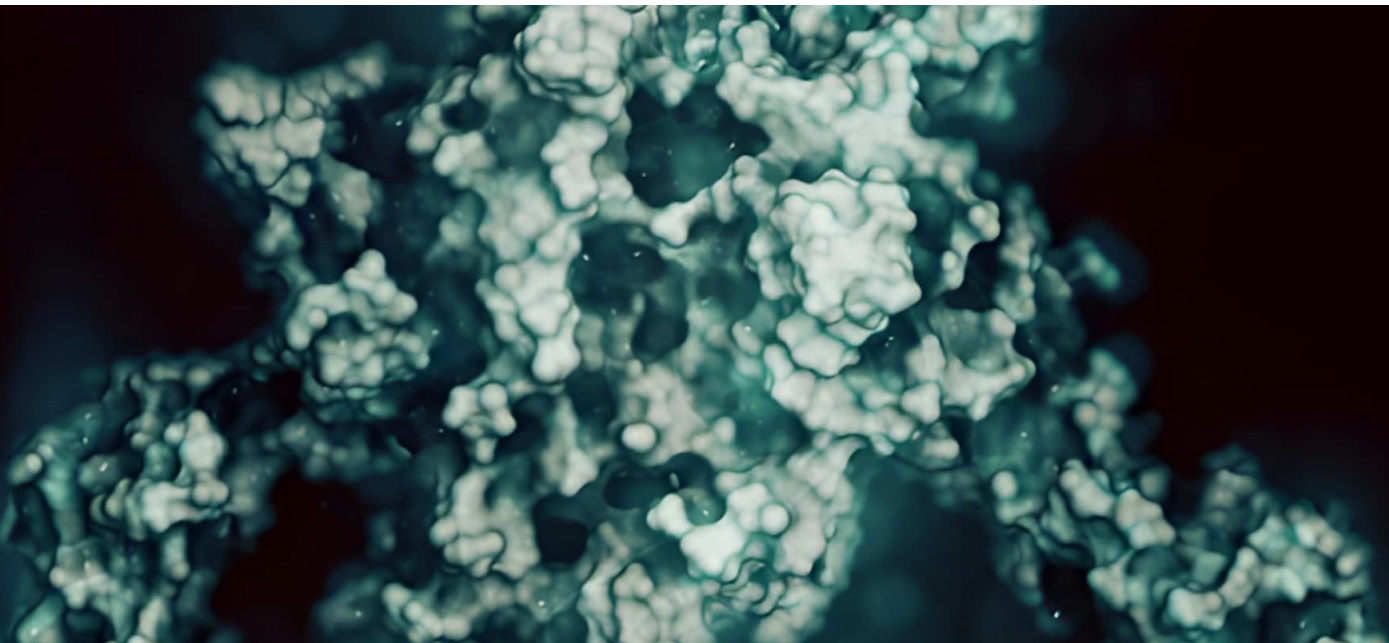
## 2. Antibacterial and Antifungal Properties

Ta1 boosts the phagocytic activity of macrophages and enhances the maturation of dendritic cells, improving bacterial and fungal clearance. It has shown promise in treating infections caused by multidrug-resistant organisms, and its adjuvant use has been investigated for opportunistic infections in immunosuppressed patients.

- Animal studies demonstrated that Ta1 reduces bacterial burden in sepsis models by enhancing macrophage activation.
- In vitro research highlights its effectiveness against *Candida albicans* through immune system modulation.

## Overview

<https://pmc.ncbi.nlm.nih.gov/articles/PMC7115394/>



# Thymosin alpha 1: Immunity Super Charger

Thymosin alpha 1 (Ta1) is 28 amino acid peptide derived from the thymus gland. Among research circles and anecdotal reports from peptide enthusiasts, it has been reported to be a potent immune modulator and has gained significant attention in immunological research due to its wide range of activities, including antiviral, antibacterial, antifungal, and antitumor properties. Ta1 is approved for clinical use in several countries, particularly for treating chronic hepatitis B and C, and as

## Immune Support

Among research circles and anecdotal reports from peptide enthusiasts, a common protocol that is often discussed involves administering injection in belly or glute, Am or PM.

Powder form	Bacteriostatic water added	Strength mg/mL	Dose	Frequency	Supply
10mg vial	1 mL	10mg/mL	0.5mg (5 units)	5 days on 2 days off	4 weeks

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## Acute Infection

Among research circles and anecdotal reports from peptide enthusiasts, a common protocol that is often discussed involves administering injection in belly or glute, Am or PM.

Powder form	Bacteriostatic water added	Strength mg/mL	Dose	Frequency	Supply
10mg vial	1 mL	10mg/mL	2.0mg (20 units)	5 days in a row	1 week

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## Chronic Infection

Among research circles and anecdotal reports from peptide enthusiasts, a common protocol that is often discussed involves administering injection in belly or glute, Am or PM.

Powder form	Bacteriostatic water added	Strength mg/mL	Dose	Frequency	Supply
10mg vial	1 mL	10mg/mL	2.0mg (15 units)	2x per week	3-4 weeks

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