



Thymosin Alpha-1

About

Thymosin Alpha-1 (T α 1) is a thymus-derived peptide studied for its ability to support immune function, regulate inflammation, and promote overall resilience during stress or illness.

*These products are for research use only and are not intended for human consumption, medical use, therapeutic use, or diagnostic purposes. They are not to be used in foods, drugs, cosmetics, dietary supplements, or any products intended for humans or animals. Peptides are not sterile, have not been tested for safety or efficacy in humans, and must not be injected, ingested, inhaled, applied to the skin, or administered in any form. No product sold is intended to treat, cure, mitigate, or prevent any disease.

What's Included

- Two vials, concentration: 10mg/4mL
- One vial lasts 2 weeks

Reconstitution kit

- (20) 29-30G subq needles
- (1) 5mL syringe
- (1) 25G needle with syringe
- (1) 10 mL bacteriostatic water

Clinical Research Potential Benefits:

- May help boost immune system function
- May enhance response to infections
- May support healthy aging and longevity
- May aid wound healing and recovery
- May help reduce inflammation
- May support liver and cardiovascular health

Clinical Research Suggested Use:

- Draw 60 units (1.5 mg) into the syringe
- 3 days per week (M,W,F)
- Duration: 1-2 months
- Reconstitute: add 4mL bacteriostatic water to the lyophilized powder vial
- Injection type: subcutaneous injection

Reconstitution & Administration*

*Instructions start on page 2

Thymosin Alpha-1 Reconstitution



STEP 1: Remove plastic covers, clean vial and bacteriostatic water top with alcohol pad for 15 seconds

STEP 2: Using the large syringe from your administration kit, pull out 4mL of Bacteriostatic water

- It may take a few repetitions to load your syringe with the 4mL with no air pockets

STEP 3: Once you've loaded your syringe, slowly inject the 4mL of Bacteriostatic water into your Thymosin Alpha 1 vial:

- On its side to not damage the bonds of the product
- Do not shake, gently swirl if needed
- Allow the solution to sit for at least 5 minutes

***Supplies:** 5mL syringe (large), 25G needle, Bacteriostatic water, Thymosin Alpha 1 vial, Alcohol pad



STEP 1: With the smaller needle draw up 60 units of the Thymosin Alpha 1 into the small syringe from your kit

***Supplies:** 29G-30G subcutaneous syringe with needle (small), Alcohol pad



STEP 1: Clean the injection area with an alcohol pad.

STEP 2: Inject subcutaneously (see pg 3)

- Repeat 3 days per week (M,W,F)
- Duration: 2 months
- One vial last 2 weeks



Injection Steps

Subcutaneous Injection steps:

1 Choose & Clean the Injection Site

- Use the abdomen (3 inches from the belly button), thigh, or upper arm. Rotate sites to prevent irritation. Clean the area with an alcohol swab and let it dry.

2 Inject

- Pinch 1 to 2 inches of skin, insert the needle at a 90° angle, and slowly push the plunger down.

3 Remove the Needle & Dispose

- Pull the needle out at the same angle, apply light pressure with gauze (don't rub), and dispose of the syringe in a sharps container.

4 Monitor for Reactions

- Mild redness or soreness is normal. Seek medical help if you experience severe pain, swelling, or an allergic reaction.

Intramuscular Injection steps:

1 Choose & Clean the Injection Site

- Use the thigh (vastus lateralis), upper arm (deltoid), or glute (ventrogluteal or dorsogluteal muscle).
 - Rotate sites to prevent soreness. Clean the area with an alcohol swab and let it dry.

2 Inject

- Stretch the skin taut, hold the syringe like a dart at a 90° angle, and insert the needle quickly and smoothly. Slowly push the plunger down to inject.

3 Remove the Needle & Dispose

- Pull the needle straight out, apply light pressure with gauze (don't rub), and dispose of the syringe in a sharps container.

4 Monitor for Reactions

- Mild soreness or redness is normal. Seek medical help if you experience severe pain, swelling, or an allergic reaction.



Thymosin Alpha-1 Mechanism of Action

- **T-Cell Activation:**
 - Ta1 stimulates the production and function of T-cells, which are central to the adaptive immune response. It enhances the maturation of T-cells in the thymus and activates them to target and eliminate pathogens more effectively.
- **Cytokine and Interferon Production:**
 - Thymosin Alpha-1 promotes the production of interferons (such as $\text{IFN-}\alpha$) and cytokines, which are proteins that regulate the immune response. These molecules help coordinate immune cell activity, enhancing the body's defense against viruses and bacteria.
- **Regulation of Inflammatory Response:**
 - Ta1 helps balance the immune system's inflammatory response by reducing the levels of pro-inflammatory cytokines. This action is beneficial for managing chronic inflammation, preventing tissue damage, and supporting immune resilience in conditions like autoimmune diseases and arthritis.
- **Immune Cell Differentiation:**
 - Ta1 influences the differentiation and activation of antigen-presenting cells (APCs), such as macrophages and dendritic cells. These cells help detect foreign invaders and stimulate a stronger immune response.
- **Enhanced Phagocytosis:**
 - The peptide also enhances the ability of macrophages and other immune cells to phagocytose (engulf and digest) pathogens, improving overall immune efficiency.
- **Liver Regeneration and Detoxification:**
 - Ta1 has regenerative effects on the liver, where it supports the production of key proteins involved in detoxification and tissue repair. It plays a role in maintaining liver health by promoting hepatic cell regeneration and reducing inflammation in the liver.
- **Cardioprotective Effects:**
 - Thymosin Alpha-1 helps regulate the immune response to heart tissue injury, particularly after cardiovascular events such as heart attacks, by modulating the inflammatory processes that can lead to scar tissue formation and cardiac dysfunction.

