

# PRESCRIPTION MONOGRAPH

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**Compounded Active Ingredients:** Glycine/Sermorelin

**Form:** Injection

**Drug Class:**

- Glycine: Non-essential amino acid
  - Sermorelin: Synthetic GHRH analog that contains 28 amino acids.
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**Mechanism of Action**<sup>1,4,5</sup>: When compounded together, Glycine/Sermorelin may provide complementary support for growth hormone signaling and overall metabolic function and is intended to:

- Preserve feedback control by maintaining the hypothalamic–pituitary regulatory balance.
  - Promote deeper slow-wave sleep to support nocturnal growth hormone (GH) release.
  - Mimic endogenous GHRH (1-29), stimulating the anterior pituitary to release GH.
  - Stimulate IGF-1 production via GH induction.
  - Promote muscle growth, fat loss, cellular repair, and anti-aging effects.
  - Enhance sleep quality, glucose metabolism, and collagen synthesis.
  - Modulate inflammation and oxidative stress.
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**Indications Commonly Prescribed For:**

- Age-related decline in growth hormone
  - Poor sleep quality with low recovery
  - Metabolic syndrome or insulin resistance
  - Anti-aging and wellness protocols
  - Central adiposity and body composition goals
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**Before Use:** Let your healthcare provider know if you have had any allergic reactions to injections in the past. Let your healthcare provider know if you are pregnant or breast feeding. Let your healthcare provider know of all supplements you are currently taking.

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**Contraindications:**

- Active malignancy (due to GH-stimulating potential)
  - Known hypersensitivity to Sermorelin, Glycine, or any of its components
  - Severe hepatic or renal impairment
  - Uncontrolled diabetes or thyroid issues
  - Evidence of intracranial tumors/lesions
  - Severe heart failure or pulmonary edema
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**Cautions:** Let your healthcare provider know of any changes of vision while on this compounded preparation. Take care when injecting the compounded preparations in only specified areas from your health care provider. Check the vial before use for any cloudiness or discoloration before use. Rotate your injection site with each injection to avoid skin problems like thinning, thickening, or lumps.

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## Warnings and Precautions:

- May elevate cortisol, thyroid hormones, or IGF-1 levels.
- Do not use in patients with untreated pituitary adenomas or acromegaly.
- Caution in schizophrenia (may exacerbate NMDA effects).
- Glycine may cause mild sedation or gastrointestinal discomfort.
- Benign Intracranial Hypertension (BIH): Use with caution; monitor for symptoms such as headache, visual disturbances, or nausea.
- Tumor Activity: Contraindicated in individuals with active malignancy; discontinue therapy if evidence of tumor progression occurs.
- Hypothyroidism: May blunt the response to Sermorelin; evaluate and correct thyroid function before initiating therapy.
- Critical Illness: Not recommended for use in critically ill patients due to potential complications.
- Use caution in patients with diabetic retinopathy, obesity, or elevated plasma fatty acids.
- Glucose effects: GH-axis stimulation can worsen insulin resistance in susceptible patients; monitor glucose and A1c in metabolic-risk patients.
- Cardiovascular risk: Observe caution due to fluid retention effects and potential to lower blood pressure, potentially worsening heart failure.
- Benzyl alcohol is a preservative used in Sermorelin. Metabolic acidosis can develop when large amounts of benzyl alcohol build up in your body.

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**Adverse Reactions:** If you experience any side effects or adverse reactions, including those not listed, please contact your healthcare provider. Seek emergency care if symptoms are severe.

## Common:

- Flushing
- Nausea, vomiting
- Headache, dizziness
- Daytime drowsiness
- Injection site reactions
- Mild fluid retention
- Hyperactivity
- Difficulty swallowing
- Fatigue
- Change in taste
- Pale skin
- Tingling/burning sensation
- Joint stiffness

## Serious, but Rare:

- Hypotension
- Bradycardia
- Allergic reaction
- Difficulty breathing
- Swelling of the face, mouth, lips, or tongue
- Blurred or tunnel vision
- Vision loss
- Irregular heartbeat
- Slurred Speech, confusion
- Loss of coordination
- Muscle stiffness
- Edema

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## Interactions:

- Glucocorticoids: may reduce effectiveness by suppressing natural growth hormone production
  - CNS depressants/sedatives: may increase the sedative effects of other medications.
  - Drugs Affecting Pituitary Function: Medications that alter pituitary hormone release may interfere with sermorelin efficacy.
  - Hypothyroid Medications: Untreated hypothyroidism can reduce sermorelin effectiveness; monitor thyroid function.
  - Glucose-lowering agents (insulin/orals): Glycemic needs may change; monitor and adjust. May increase the response to sermorelin.
  - Somatostatin analogs: Can reduce sermorelin effectiveness.
  - Blood Pressure Medications: Glycine may lower blood pressure, potentially enhancing the effects of antihypertensive drugs.
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## Use in Specific Populations:

- Pregnancy/Lactation: Not recommended due to insufficient safety data.
  - Pediatrics: Sermorelin is historically used for pediatric GHD; dosing should be individualized.
  - Geriatrics: Off-label anti-aging protocols; monitor IGF-1 levels and comorbidities
  - Hepatic/Renal Impairment: Use with caution; limited data available
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## Storage:

- Refrigerate at 2°C to 8°C (36°F to 46°F)
  - Can be stored at room temperature (up to 30°C or 86°F) for up to 48hrs
  - Do not freeze
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**How to Use:** This medication is a subcutaneous injection and is delivered in a premixed liquid form. Wash your hands with soap and water before giving the injection. Wipe the rubber stopper of the vial with an alcohol swab. Take a syringe and pull the plunger down to the necessary prescribed amount. This is achieved when the plunger reaches the line for the amount prescribed. Push the needle through the rubber stopper of the vial. Push the plunger down to put air into the vial. Invert the vial and then slowly pull the plunger down past the prescribed dose. If there are bubbles in the syringe, tap the syringe to allow the air bubbles to rise to the top. Slowly push the plunger up until the tip reaches the line for the prescribed dose and removes the bubble of air. Pull the syringe out of the vials rubber stopper. Inject at predetermined injection site as instructed by healthcare practitioner. Discard any remainder from punctured vial after 28 days.

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## Monitoring Parameters:

- Baseline and periodic IGF-1 levels, fasting glucose, CMP, TSH
  - Liver and renal function
  - Monitor sleep, body composition, mood, and energy levels
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### Citations:

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2. Heresco-Levy, U., Javitt, D. C., Ermilov, M., Mordel, C., Silipo, G., & Lichtenstein, M. (1999). Efficacy of high-dose glycine in the treatment of enduring negative symptoms of schizophrenia. *Archives of General Psychiatry*, 56(1), 29-36. <https://doi.org/10.1001/archpsyc.56.1.29>
3. Potkin, S. G., Jin, Y., Bunney, B. G., Costa, J., & Gulasekaram, B. (1999). Effect of clozapine and adjunctive high-dose glycine in treatment-resistant schizophrenia. *American Journal of Psychiatry*, 156(1), 145-147. <https://doi.org/10.1176/ajp.156.1.145>
4. Prakash A, Goa KL. Sermorelin: a review of its use in the diagnosis and treatment of children with idiopathic growth hormone deficiency. *BioDrugs*. 1999;12(2):139-157. doi:10.2165/00063030-199912020-00007.
5. Walker RF. Sermorelin: A better approach to management of adult-onset growth hormone insufficiency? *Clin Interv Aging*. 2006;1(4):307-8.
6. Safety information referenced for Sermorelin:  
*Sermorelin acetate drug information: description, dosage, side effects* [Internet]. RxList. Updated 2025. Available from: <https://www.rxlist.com/sermorelin-acetate-drug.htm#description>. Accessed February 18, 2026.