



## KPV

### About

KPV is a peptide fragment of  $\alpha$ -MSH being studied for its potent anti-inflammatory and immunomodulatory properties. It may help regulate inflammation without suppressing immune function, making it a promising option for gut health, autoimmune conditions, and skin or neurological support.

\*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

- One vial, concentration: 10mg/4mL
- One vial will last 1 month

### 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 reduce systemic and localized inflammation
- May support gut lining repair and immune regulation
- May promote skin healing and reduce redness
- May aid in calming neuroinflammation and associated symptoms

### Clinical Research Suggested Use:

- Draw 14 units (350mcg) into the syringe
- Administer 5 days per week, 2 days off
- Duration: 1 month
- Reconstitute: add 4mL bacteriostatic water to the lyophilized powder vial
- Injection type: subcutaneous injection

### Reconstitution & Administration\*

\*Instructions start on page 2

## KPV Reconstitution



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

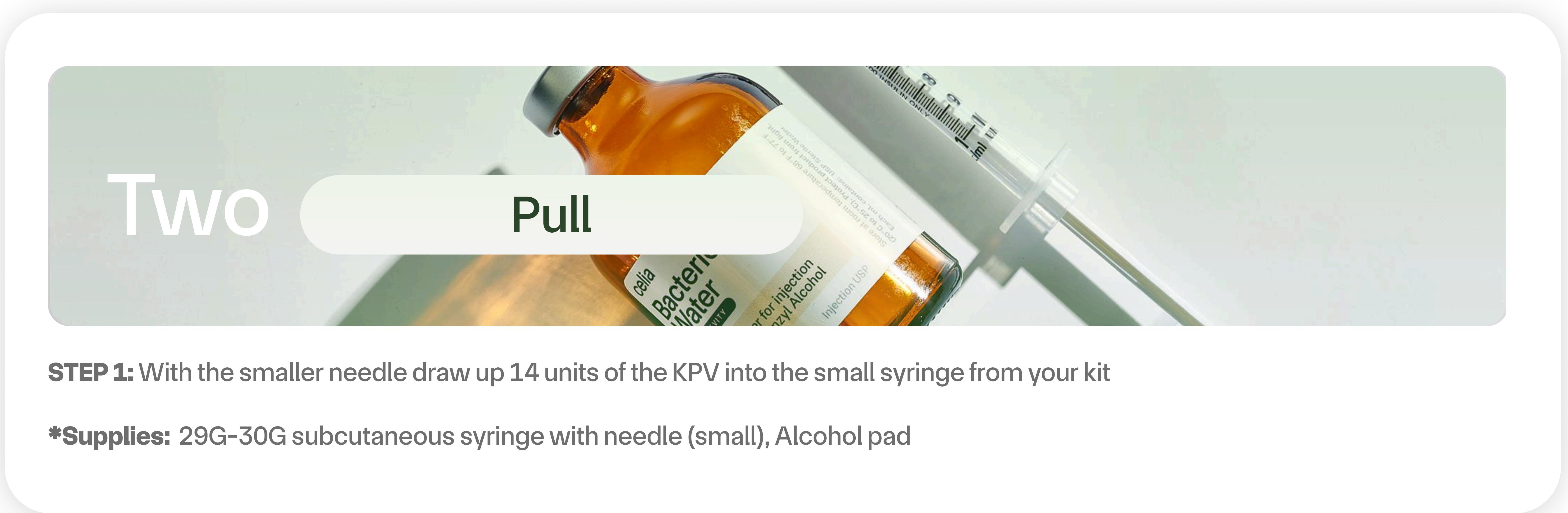
**STEP 2:** Using the large syringe from your administration kit, pull out 4mL of Bacteriostatic water

- 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 KPV 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:** 5 mL syringe (large), 25G needle, Bacteriostatic water, KPV vial, Alcohol pad



**STEP 1:** With the smaller needle draw up 14 units of the KPV 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 5 days per week, with 2 days off
- Duration: 1 month
- One vial will last one month



## 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.

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### 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.



## KPV Mechanism of Action

- **Anti-Inflammatory and Immune Regulation:**

- KPV (Lys-Pro-Val) is a naturally occurring tripeptide derived from the C-terminal sequence of  $\alpha$ -melanocyte-stimulating hormone ( $\alpha$ -MSH). It exerts potent anti-inflammatory effects primarily through inhibition of NF- $\kappa$ B signaling, resulting in reduced expression of pro-inflammatory cytokines such as TNF- $\alpha$  and IL-6.

- **MC1R Receptor Activation:**

- KPV binds to melanocortin-1 receptors (MC1R) expressed on epithelial and immune cells, initiating cAMP-dependent signaling cascades that suppress inflammatory mediator release and promote cellular resilience. This receptor-mediated mechanism contributes to immunomodulation and protection against chronic inflammation.

- **Epithelial Barrier Integrity:**

- KPV enhances epithelial barrier function by strengthening tight junction proteins and promoting mucosal repair. These effects are especially relevant in gastrointestinal and dermatologic tissues, where barrier disruption contributes to inflammation and immune dysregulation.

- **Antimicrobial and Cytoprotective Effects:**

- In addition to its anti-inflammatory actions, KPV exhibits broad-spectrum antimicrobial activity across skin and gut tissues. This antimicrobial property, combined with its ability to stabilize epithelial integrity, supports host defense and tissue recovery under inflammatory or infectious stress.

- **Systemic and Localized Therapeutic Potential:**

- Through its combined roles in immune regulation, epithelial protection, and microbial balance, KPV offers dual systemic and localized benefits in conditions characterized by inflammation, barrier dysfunction, or immune activation.

