

## SS-31 (40mg) INJECTABLE PEPTIDE

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SS-31, also known as Elamipretide, is a mitochondria-targeted tetrapeptide designed to enhance mitochondrial function. It interacts with cardiolipin, a critical phospholipid on the inner mitochondrial membrane, stabilizing mitochondrial structure, boosting energy production, and reducing oxidative stress. SS-31 has shown promise in treating age-related diseases, muscle wasting, and other mitochondrial dysfunctions. It has been extensively studied for conditions like age-related macular degeneration, heart failure, chronic kidney disease, and chemotherapy-induced muscle wasting.

### HOW IT WORKS / MECHANISM OF ACTION

SS-31 binds to cardiolipin, preserving the structure of the mitochondrial cristae and maintaining membrane integrity. It prevents mitochondrial swelling and dysfunction, enhances ATP production, and reduces oxidative damage by inhibiting cytochrome c peroxidase activity. It also downregulates the mitochondrial fission protein Fis1, which protects against cellular damage during inflammation, reducing apoptosis (cell death) and preserving energy production. This stabilization improves overall mitochondrial efficiency, supports energy metabolism, and mitigates oxidative stress, especially in tissues prone to mitochondrial dysfunction.

### BENEFITS

- **Enhanced Mitochondrial Function:** SS-31 improves bioenergetics by increasing ATP production, which is essential for cellular repair and energy-demanding processes. It is particularly beneficial in conditions like **ischemia**, where ATP recovery and mitochondrial efficiency are crucial for survival and recovery.
- **Muscle Protection in Cachexia:** It shows potential in combating muscle wasting associated with **cancer**, **chronic diseases**, and **chemotherapy**. SS-31 improves muscle energy status, reduces catabolism, and protects against mitochondrial alterations, promoting muscle mass retention and physical endurance.
- **Cognitive Function:** SS-31 improves memory and synaptic function by enhancing synaptic integrity and reducing neuroinflammation, making it a potential treatment for **neurodegenerative diseases**.
- **Reduced Oxidative Stress:** By decreasing the production of reactive oxygen species (ROS), SS-31 stabilizes mitochondrial membranes, protecting tissues like the **heart**, **skeletal muscle**, and **kidneys** from oxidative damage.
- **Cardiovascular and Ocular Health:** It has been shown to improve **cardiovascular function** and enhance visual function in age-related macular degeneration, especially improving **low-luminance vision**, which can enhance quality of life for patients with impaired vision.

### CONTRAINDICATIONS

- **Active Cancer:** SS-31 may enhance cellular metabolism and energy production, so it should be used cautiously in patients with active cancer unless prescribed by a healthcare provider.
- **Pregnant or Breastfeeding Women:** The safety of SS-31 during pregnancy or breastfeeding is not established; therefore, it is not recommended for these populations.

### HELPS WITH

- |                             |                               |
|-----------------------------|-------------------------------|
| • Mitochondrial Health      | • Longevity                   |
| • Energy Boost              | • Neuroprotection             |
| • Cellular Repair           | • Cognitive Health            |
| • Muscle Protection         | • Heart Health                |
| • Muscle Recovery           | • Cardiovascular Support      |
| • Muscle Wasting Prevention | • Oxidative Stress Reduction  |
| • Fatigue Reduction         | • Inflammation Control        |
| • Anti-Aging                | • Chronic Fatigue             |
| • Kidney Health             | • Ischemia-Reperfusion Injury |
| • Eye Health                |                               |

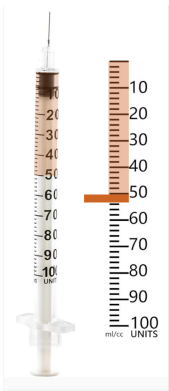
### EXPECTED EFFECTS & TIMELINE OF BENEFITS

- **1-2 Weeks:** Initial improvements in energy levels, reduced muscle soreness, and enhanced endurance are often reported. Increased mitochondrial efficiency can lead to reduced fatigue, especially after physical activity.
- **4-6 Weeks:** Noticeable benefits in **cognitive performance** and **visual function** may be observed. Users often report enhanced memory, focus, and low-luminance vision, particularly beneficial for those with age-related macular degeneration.
- **8-12 Weeks:** Significant improvements in muscle mass, reduced oxidative stress, and enhanced cardiovascular health are typical. Consistent use leads to long-term mitochondrial benefits, reduced muscle wasting, and improved quality of life.
- **Long-term:** Continuous use of SS-31 supports mitochondrial health, enhances muscle endurance, and maintains cognitive function, leading to better overall energy levels and reduced disease-related symptoms.

## DOSING & INJECTION PROTOCOL

### DOSING:

5 mg = 50 units per injection.



### INJECTIONS PER WEEK:

2 injections weekly.

### VIAL DETAILS:

\$500

40mg / 4mL

Lasts 4 weeks.

### RECOMMENDED CYCLES:

3 months on (+), 1 month off (-).

3 cycles per year.

### INJECTION SITE:

SS31 should be injected subcutaneously, into fatty areas like the stomach, thigh, or upper arm. Rotate injection sites to avoid irritation.

### TIME OF DAY:

Morning injections are recommended, as it may give you a boost of energy and to take advantage of its energizing effects throughout the day. You can also take it prior to exercise.

### WEEKLY PROTOCOL

SUN	MON	TUES	WEDS	THURS	FRI	SAT
		<input type="checkbox"/> 50 units			<input type="checkbox"/> 50 units	

2 injections weekly.

### MONTHLY PROTOCOL

SS31	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
	+	+	+	-	+	+	+	-	+	+	+	-
	CYCLE 1				CYCLE 2				CYCLE 3			

3 months on (+), 1 month off (-).

3 cycles per year.

### POTENTIAL SIDE EFFECTS

- Injection Site Reactions:** Some users may experience mild redness, itching, or discomfort at the injection site. Rotating the injection site can help minimize these symptoms.
- Headache and Dizziness:** Headaches and dizziness have been reported, potentially due to increased mitochondrial activity and altered blood flow.
- Mild Gastrointestinal Distress:** Nausea or stomach discomfort may occur, especially at higher doses, but these symptoms are usually mild and temporary.
- Flushing and Fatigue:** Users may experience flushing similar to that caused by niacin, along with temporary fatigue as the body adapts to increased mitochondrial function.

### TIPS TO REDUCE SIDE EFFECTS

- Start with a Lower Dose:** Gradually increasing the dose can help minimize side effects like nausea and headaches.
- Rotate Injection Sites:** Avoid injecting in the same area repeatedly to prevent irritation and pain.
- Stay Hydrated:** Drinking adequate water can help reduce headaches and flushing, as hydration supports optimal mitochondrial function.
- Take with Food:** If gastrointestinal discomfort occurs, taking SS-31 with food may help alleviate these symptoms.
- Consult a Healthcare Provider:** Regular monitoring by a healthcare professional is recommended.