Semax

History and Background

Semax is a synthetic peptide developed in Russia in the 1980s based on a fragment of adrenocorticotropic hormone (ACTH). It was created by the Institute of Molecular Genetics of the Russian Academy of Sciences as a nootropic (cognitive enhancer) and neuroprotective agent. Semax has been used extensively in Russia for decades to treat stroke, traumatic brain injury, cognitive decline, and ADHD. While not FDA-approved in the US, it has gained popularity in biohacking and nootropic communities for cognitive enhancement, focus, mood, and stress resilience.

Primary Uses

Semax is used for cognitive enhancement and mental clarity, improved focus and concentration, enhanced memory and learning, neuroprotection and brain health, stress resilience and anxiety reduction, mood enhancement and motivation, support for ADHD and attention disorders, stroke and traumatic brain injury recovery, increased energy and mental stamina, and overall brain optimization.

How It Works

Semax works through multiple mechanisms in the brain. It increases brain-derived neurotrophic factor (BDNF), which supports neuronal growth, survival, and plasticity. It modulates dopamine, serotonin, and norepinephrine systems, improving focus, mood, and motivation. Semax enhances cerebral blood flow and oxygen utilization, supporting brain metabolism. It has antioxidant and anti-inflammatory effects, protecting neurons from damage. Semax also regulates the stress response by modulating the HPA axis and reducing cortisol. It does not cause overstimulation or tolerance like traditional stimulants.

Standard Protocol

Dosing: Standard: 300-600mcg per dose, 1-2x daily. N-Acetyl Semax: 600-900mcg per dose. Total daily: 600-1200mcg. Start with lower doses to assess response.

Administration: Intranasal spray or drops (most common and effective). Subcutaneous injection also possible. Comes as nasal spray solution or lyophilized powder for injection.

Timing: Morning dose: Upon waking or with breakfast. Second dose: Early afternoon (not late to avoid sleep disruption). Avoid dosing after 3-4pm.

Titration Schedule:

Standard Semax: 300-600mcg intranasal, 1-2x daily

Semax 1% (N-Acetyl): 600-900mcg intranasal, 1-2x daily (stronger, longer-lasting)

Cognitive Enhancement: 300mcg morning, 300mcg early afternoon

Duration: Cycles of 2-4 weeks on, 1-2 weeks off

Duration: Cycles recommended: 2-4 weeks on, 1-2 weeks off to maintain effectiveness. Some use daily for months, but cycling preferred.

What to Expect

Positive Effects (Week 1-2)

Significantly enhanced focus and concentration. Improved mental clarity and cognitive processing. Better memory formation and recall. Increased motivation and drive. Enhanced mood and reduced anxiety. Greater stress resilience. Improved verbal fluency and communication. Sustained mental energy without jitters. Potential neuroprotection and brain health benefits.

Timeline to Results

Immediate effects: 15-30 minutes (enhanced focus, clarity). Short-term: 1-2 weeks (improved cognition, mood). Neuroprotective benefits: Cumulative over months. Optimal effects: 2-4 weeks of consistent use.

Dose Response

Moderate doses (300-600mcg) highly effective for most users. Higher doses (900mcg+) may produce stronger effects but also more stimulation. N-Acetyl version is more potent and longer-lasting. Individual sensitivity varies.

Pros

Powerful cognitive enhancement and focus
Improves mood and reduces anxiety (anxiolytic)
Neuroprotective and supports brain health
No tolerance or dependence (when cycled)
Intranasal administration is easy and fast-acting
Well-researched in Russia with decades of use
Enhances stress resilience
No crash or jitters like stimulants
Can improve ADHD symptoms naturally
Relatively safe with minimal side effects

Cons

Not FDA-approved in the US
Individual response varies significantly
May cause overstimulation in sensitive users
Can disrupt sleep if dosed too late
Requires cycling to maintain effectiveness
Quality varies greatly between suppliers
Nasal administration may cause irritation
Limited Western clinical research
Relatively expensive

May increase anxiety in some users initially

Who Should Consider It

Individuals seeking cognitive enhancement and focus, those with ADHD or attention difficulties, people in cognitively demanding work or study, individuals recovering from brain injury or stroke, those with chronic stress or anxiety, people seeking neuroprotection and brain health, biohackers and nootropic users, individuals wanting alternatives to stimulant medications.

Who Should Avoid It

Pregnant or breastfeeding women, individuals with severe anxiety disorders (may worsen initially), people with seizure disorders, those with high blood pressure (use cautiously), individuals sensitive to stimulation, people unable to cycle properly, those with unrealistic expectations.

Semax is not FDA-approved in the United States. It is approved and widely used in Russia. For research and educational purposes only. Individual results vary. Should be cycled to maintain effectiveness. Consult healthcare provider before use, especially with pre-existing conditions. This information is for educational purposes only.