



Oxytocin with Methylene Blue 100iu/1%

About

Oxytocin with Methylene Blue is a synergistic blend studied for its potential to support mood, cognitive function, and hormonal balance. It combines the emotional bonding and calming effects of oxytocin with the neuroprotective, energy-enhancing properties of methylene blue.

*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 spray bottle
- Concentration: 100iu/1% per mL

Caution: Methylene Blue is contraindicated if taking high doses of SSRI's or MAOI's

Clinical Research Potential Benefits:

- May improve focus, memory, and cognitive clarity
- May reduce stress and enhance mood, especially during peri/menopause
- May offer neuroprotective and cortisol-lowering effects
- May support skin health and hormonal balance

Clinical Research Suggested Use:

- 4 sprays; 2 sprays in each nostril
- Administer daily in the AM
- Duration: 6 months



Nasal Spray Guidelines

Before Use:

- For first-time use: Prime the spray by pressing the pump 2 to 3 times until it fully activates
- Gently blow your nose to clear the nasal passages
- Shake the bottle lightly
- Insert the nozzle toward the back of the nostril while keeping your head upright
- Press the pump to administer the recommended number of sprays

After Use:

- Try to avoid blowing your nose right away
- Wipe the spray tip with a clean tissue
- Replace the cap securely
- Store in the refrigerator



Oxytocin with Methylene Blue 100iu/1% Mechanism of Action

Oxytocin:

- **Receptor Binding and Signal Transduction:**

- Oxytocin exerts its physiological effects by binding to the oxytocin receptor (OXTR), a G-protein-coupled receptor (GPCR) expressed on target cells in the brain, uterus, mammary glands, and cardiovascular system. Receptor activation stimulates phospholipase C (PLC), leading to the hydrolysis of phosphatidylinositol 4,5-bisphosphate (PIP₂) into inositol triphosphate (IP₃) and diacylglycerol (DAG). This cascade elevates intracellular calcium (Ca²⁺) levels, initiating downstream contractile and signaling responses.

- **Cellular Activation and Physiologic Response:**

- Increased intracellular calcium activates calmodulin-dependent kinases and the cell's contractile machinery, producing smooth muscle contractions, most notably in uterine and mammary tissues. This mechanism underlies oxytocin's role in labor induction, postpartum uterine tone, and milk ejection during lactation.

- **Neuroendocrine and Behavioral Regulation:**

- Beyond its peripheral actions, oxytocin functions as a neuropeptide in the central nervous system, influencing social bonding, trust, emotional regulation, and sexual behavior. It modulates activity in limbic and hypothalamic brain regions associated with emotional processing and stress adaptation.

- **Stress Reduction and Parasympathetic Activation:**

- Oxytocin dampens hypothalamic-pituitary-adrenal (HPA) axis activity, lowering cortisol levels and promoting a parasympathetic, restorative state. These effects contribute to reduced anxiety, enhanced mood, and improved stress resilience.

- **Systemic and Therapeutic Effects:**

- Through its dual roles as a hormone and neuromodulator, oxytocin supports reproductive physiology, emotional connection, and autonomic balance. Its actions on smooth muscle tone, cardiovascular regulation, and social cognition make it a unique peptide bridging endocrine and behavioral health.



Oxytocin with Methylene Blue 100iu/1% Mechanism of Action

Methylene Blue:

- **Redox Modulation and Hemoglobin Reduction:**

- Methylene Blue acts as a redox-active compound that facilitates the conversion of methemoglobin (Fe^{3+}) back to its functional ferrous form (Fe^{2+}). By serving as an artificial electron carrier, it donates electrons to the NADPH-methemoglobin reductase pathway, restoring hemoglobin's oxygen-binding capacity and improving oxygen transport and tissue oxygenation.

- **Enhancement of Cellular Respiration:**

- Beyond its hematologic effects, Methylene Blue supports mitochondrial respiration by shuttling electrons within the electron transport chain (ETC), particularly between complexes I and III. This bypasses dysfunctional segments of the ETC, enhancing ATP synthesis and improving mitochondrial efficiency under oxidative or hypoxic stress conditions.

- **Antioxidant and Neuroprotective Actions:**

- Through its redox cycling, Methylene Blue reduces the accumulation of reactive oxygen species (ROS) and protects neuronal and mitochondrial membranes from oxidative injury. These properties contribute to neuroprotection, mitochondrial stabilization, and improved cognitive performance in stress or hypoxia-related dysfunction.

- **Anti-Inflammatory and Cytoprotective Effects:**

- Methylene Blue exhibits mild anti-inflammatory properties by downregulating nitric oxide synthase (NOS) activity and NF- κ B-mediated inflammatory signaling, helping reduce oxidative and inflammatory damage at the cellular level.

- **Systemic Impact:**

- By restoring hemoglobin functionality, enhancing mitochondrial respiration, and reducing oxidative stress, Methylene Blue improves cellular energy production and tissue oxygen delivery. Its unique redox-modulating mechanism supports both neurological performance and metabolic resilience, making it a valuable adjunct in mitochondrial and cognitive optimization protocols.

