Oxytocin

Molecular Formula: C43H66N12O12S2

Molecular Weight: 1007.2 g/mol | Sequence: Non-peptide

DESCRIPTION:

While Oxytocin certainly lives up to its reputation as the "Love Hormone," it also has broader applications like weight management and a performance enhancer. Oxytocin levels reach extreme levels during childbirth and breastfeeding, however they have also found to be elevated during sexual arousal, skin to skin contact, and orgasm. Due to this, research has been conducted and shown that exogenous administration of Oxytocin can improve libido, orgasm intensity/frequency and sexual pleasure. For weight management, oxytocin administration has been shown to decrease overall weight through reduced caloric consumption in both animal and human models. Data suggests this is done by modulating the activation of hedonic food motivation pathways. The ventral tegmental area (VTA) is one part of this pathway and the origin of dopaminergic bodies. The VTA also has oxytocin receptors, and it is believed that saturating these receptors with exogenous oxytocin administration is what leads to the downstream effect of decreased food desire. Lastly, a study has shown that oxytocin may provide benefits in team and personal performance. It showed a direct link between oxytocin, prosocial behavior and social emotions, all of which are key to team performance. Oxytocin can greatly increase one's ability to trust, empathy, overall team cohesion, and more. While more research needs to be done on this topic, initial results seem very promising that all corporate and athletic teams could benefit from more Oxytocin.

PROTOCOL:

Content & Potency: 20iu/0.1ml/spray in nasal spray provided as a 6 ml bottle
Suggested dosage: 1 spray in each nostril once daily

CLINICAL RESEARCH:

Effects of Intranasal Oxytocin on the Blood Oxygenation Level-Dependent Signal in Food Motivation and Cognitive Control Pathways in Overweight and Obese Men.

Recent research indicates that the hypothalamic neuropeptide hormone oxytocin is a key central nervous system factor in the regulation of food intake and weight. However, the mechanisms underlying the anorexigenic effects of oxytocin in humans are unknown and critical to study to consider oxytocin as a neurohormonal weight loss treatment. We performed a randomized, double-blind, placebo-controlled crossover study with single-dose intranasal oxytocin (24 IU) in ten overweight or obese, otherwise healthy men. Following oxytocin/placebo administration, participants completed an established functional magnetic resonance imaging food motivation paradigm. We hypothesized that oxytocin would reduce the blood oxygenation level dependent (BOLD) signal to high-calorie

food vs non-food visual stimuli in the ventral tegmental area (VTA), the origin of the mesolimbic dopaminergic reward system. Following oxytocin administration,compared to placebo, participants showed bilateral VTA hypoactivation to high-calorie
food stimuli. A secondary exploratory whole-brain analysis revealed hypoactivation in additional hedonic (orbitofrontal cortex, insula, globus pallidus, putamen, hippocampus, and amygdala) and homeostatic (hypothalamus) food motivation and hyperactivation in cognitive control (anterior cingulate and frontopolar cortex) brain regions following oxytocin administration vs placebo. Oxytocin administration reduces the BOLD signal in reward-related food motivation brain regions, providing a potential neurobiological mechanism for the anorexigenic oxytocin effects in humans. Furthermore, our data indicate that oxytocin administration reduces activation in homeostatic and increases activation in cognitive control brain regions critically involved in regulating food intake and resolving affective conflict, respectively. Future studies are required to link these changes in brain activation to oxytocin effects on food intake and weight.

Plessow F, Marengi DA, Perry SK, Felicione JM, Franklin R, Holmes TM, Holsen, LM, Makris N, Deckersbach T, Lawson EA. Effects of Intranasal Oxytocin on the Blood Oxygenation Level-Dependent Signal in Food Motivation and Cognitive Control Pathways in Overweight and Obese Men. Neuropsychopharmacology. 2018 Feb;43(3):638-645. doi: 10.1038/npp.2017.226. Epub 2017 Sep 20. PubMed PMID:28930284; PubMed Central PMCID: PMC5770767.