Orexin B is an endogenous peptide neurotransmitter that activates orexin-2 receptors (OX2), controlling pituitary functions and increasing secretion of luteinizing hormone (LH) and follicle-stimulating hormone (FSH). Orexin B is also involved in sleep, arousal, and feeding behaviors. This compound exhibits neuroprotective and orexigenic activities. Orexin B increases phosphorylation of Akt, increasing neuronal viability and protecting neurons against oxidative stress. Orexin B also decreases latency to eating, increases feeding behavior, decreases anxiety, and increases arousal in vivo. Orexin B stimulates insulin secretion in the pancreas of rats in a β-adrenergic receptor-dependent manner.