Product Data Sheet

Product Name: Neuropeptide Y (scrambled)
Cat. No.: GC10695

Chemical Properties

Cas. No.			
Formula	$C_{190}H_{287}N_{55}O_{57}$	M.Wt	4253.7
Solubility	Soluble to 1 mg/ml in Water	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Neuropeptide Y (scrambled)		

Background

Scrambled Neuropeptide Y (scNPY) was similarly synthesized and contains the same amino acids as NPY, but scNPY is in a random sequence, it was used as a control in the research in NPY [1]. The sequence of scNPY is SKPQRDANREPTRYAIYDYSNPDIELHYLRPAYALG-NH2 [2].

Neuropeptide Y (NPY) is a 36-amino acid neuropeptide that exerts its activity via G-protein-coupled receptors. NPY is widely distributed in the peripheral and central nervous system. It modulates a variety of physiological processes, e.g. the central regulation of vasoconstriction, memory retention and food intake, and the regulation of circadian rhythm [2].

Scrambled NPY peptide treatment had no effect on VEGF expression in 4T1 cells. Previous treatment with scrambled NPY at concentrations ranging from 10−10 to 10−7 M made conditioned media from 4T1 cells show no difference in the number of complete endothelial networks or branch points versus control in endothelial tube formation assays [3].

In trimethyltin-treated (TMT-treated) rats, treatment with scrambled NPY for 24 h made the expression of Bdnf, NpyR, neurogenic and antiapoptotic genes comparable to that of

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saline-injected animals (without significant differences) [4]. In TMT-treated rats, both saline and scNPY showed no significant modulation ($p > 0.05$) in the expression levels of Npy1R, Npy2R and Npy5R [5].

References:

[1]. Bouchaïb El Bahh, Silvia Balosso, Trevor Hamilton, et al. The anti-epileptic actions of neuropeptide Y in the hippocampus are mediated by Y2 and not Y5 receptors. European Journal of Neuroscience, 2005, 22: 1417-1430.
[2]. Daniela Proske, Martin Hőfliger, Richard M. Sőll, et al. A Y2 Receptor Mimetic Aptamer Directed against Neuropeptide Y. The Journal of Biological Chemistry, 2002, 277(13):11416-11422.
[3]. Philip J. Medeirosa and Dwayne N. Jackson. Neuropeptide Y Y5-receptor activation on breast cancer cells acts as a paracrine system that stimulates VEGF expression and secretion to promote angiogenesis. Peptides, 2013, 48:106-113.
[4]. Valentina Corvino, Elisa Marchese, Stefano Giannetti, et al. The neuroprotective and neurogenic effects of neuropeptide Y administration in an animal model of hippocampal neurodegeneration and temporal lobe epilepsy induced by trimethyltin. J. Neurochem., 2012, 122: 415-426.
[5]. Valentina Corvino, Elisa Marchese, Maria Vittoria Podda, et al. The Neurogenic Effects of Exogenous Neuropeptide Y: Early Molecular Events and Long-lasting Effects in the Hippocampus of Trimethyltin-Treated Rats. PLOS ONE, 2014, 9(2): e88294.