Product Data Sheet

Product Name: Agouti-related Protein (AGRP) (25-82), human
Cat. No.: GP10076

Chemical Properties

Cas. No.			
Formula	$C_{279}H_{468}N_{80}O_{90}S_1$	M.Wt	6415.39
Solubility	≥ 100mg/mL in Water, Limited solubility in DMSO	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			

Background

Agouti-related protein also called Agouti-related peptide (AgRP) is a neuropeptide produced in the brain by the AgRP/NPY neuron. It is only synthesised in NPY containing cell bodies located in the ventromedial part of the arcuate nucleus in the hypothalamus[1]. Agouti-related protein is primarily expressed in the adrenal gland, subthalamic nucleus and hypothalamus; with lower levels of expression in the testis, kidneys and lungs. The appetite stimulating effects of AgRP are inhibited by the hormone leptin and activated by the hormone ghrelin. Adipocytes secrete leptin in response to food intake. This hormone acts in the arcuate nucleus and inhibits the AgRP/NPY neuron from releasing orexigenic peptides[2]. Ghrelin has receptors on NPY/AgRP neurons that stimulate the secretion of NPY and AgRP to increase appetite. AgRP is stored in intracellular secretory granules and is secreted via a regulated pathway.The transcriptional and secretory action of AgRP is regulated by inflammatory signals. Levels of AgRP are increased during periods of fasting. It has been found that AgRP stimulates the hypothalamic-pituitary-adrenocortical axis to release ACTH, cortisol and prolactin. It also enhances the ACTH response to IL-1-beta, suggesting it may play a role in the modulation of neuroendocrine response to inflammation[3].

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

References:
1. Bäckberg M, Madjid N, Ogren SO, Meister B (June 2004). "Down-regulated expression of agouti-related protein (AGRP) mRNA in the hypothalamic arcuate nucleus of hyperphagic and obese tub/tub mice". Brain Res. Mol. Brain Res. 125 (1-2): 129–39.
2. Enriori PJ, Evans AE, Sinnayah P, Jobst EE, Tonelli-Lemos L, Billes SK, Glavas MM, Grayson BE, Perello M, Nillni EA, Grove KL, Cowley MA (March 2007). "Diet-induced obesity causes severe but reversible leptin resistance in arcuate melanocortin neurons". Cell Metabolism 5 (3): 181–94.
3. Xiao E, Xia-Zhang L, Vulliémoz NR, Ferin M, Wardlaw SL (May 2003). "Agouti-related protein stimulates the hypothalamic-pituitary-adrenal (HPA) axis and enhances the HPA response to interleukin-1 inthe primate". Endocrinology 144 (5): 1736–41.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA