Recombinant Human Agouti Related Protein Homolog (Mouse), His-tagged

Cat. No. AGRP-136H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Agouti-related His-Tagged Fusion Protein, produced in*E. coli*, is 14.4 kDa (calculated) protein containing 112 amino acid residues of the human AGRP and 16 additional amino acid residues - His Tag, thrombin cleavage site. The AGRP is purified by proprietary chromatographic techniques.
Species	Human
Source	E.coli
Description	Agouti-related protein is an endogenous antagonist of hypothalamic alpha-melanocortin receptors MC3R and MC4R with potent orexigenic activity. Although a complete deletion of the AGRP gene does not produce any significant metabolic phenotypes, reduction in AGRP expression by RNA interference is associated with increased metabolic rate along with reduced weight gain. In hypothalamus, it is produced by neurons in the medial portion of arcuate nucleus, which produce also the potent orexigenic peptide Neuropeptide Y (NP-Y). Another site of central AGRP production is the hypothalamic nucleus. AGRP encompasses 132 amino acid residues and its alpha-melanocortin inhibiting activity results in a 34 amino acid cystine knot domain within the C-terminal (87-132) portion of the protein. Both AGRP and NP-Y expression was shown to be suppressed by leptin. Central administration of AGRP induces hyperphagia and increased gain in body weight in rodents, but may also exert metabolic effects even when hyperphagia is prevented. In the absence of hyperphagia, intracerebralventricular administration of AGRP caused significant

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	increases in plasma leptin and insulin concentrations (twofold and 1.5-fold, respectively) and fat pad mass. In the periphery, AGRP mRNA was found in adrenal glands, lung, testis, ovary, skeletal muscle and adipose tissue in humans or rodents. In the adrenals, it was shown that AGRP antagonizes glucosteroid production mediated by MC4R. AGRP could then modulate locally the functions of some peripheral tissues such as adrenals. In human and rat serum, detectable levels of AGRP-like activity were reported in the lower picogram range. The serum AGRP levels were elevated in obese humans compared to lean controls and increased with fasting in rats.
Amino Acid Sequence	MKHHHHHHHM LVPRGSAQMG LAPMEGIRRP DQALLPELPG LGLRAPLKKT TAEQAEEDLL QEAQALAEVL DLQDREPRSS RRCVRLHESC LGQQVPCCDP CATCYCRFFN AFCYCRKLGT AMNPCSRT
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Form	AGRP protein was lyophilized from 0.5 mg/ml in 5mM TRIS, 25mM NaCl, pH 7.5.
Purity	Purity of Agouti–related protein recombinant human is >95 % as determined by SDS-PAGE.
Solubility	Add deionized water to prepare a working stock solution of approximately 0.5 mg/ml and let the lyophilized pellet dissolve completely.
Applications	Western blotting, ELISA.
Stability	Store lyophilized AGRP protein at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after two weeks at 4°C. The lyophilized protein remains stable until the expiry date when stored at -20°C.

GENE INFORMATION

Gene Name	AGRP agouti related protein homolog (mouse) [Homo sapiens]
Synonyms	AGRP; agouti related protein homolog (mouse); ART; AGRT; ASIP2; MGC118963; agouti related protein homolog; Agouti-related transcript, mouse, homolog of; Agouti-related protein
Gene ID	181
mRNA Refseq	NM_001138
Protein Refseq	NP_001129
MIM	602311
UniProt ID	O00253
Chromosome Location	16q22
Pathway	Adipocytokine signaling pathway; Neuroactive ligand-receptor interaction
Function	neuropeptide hormone activity; receptor binding

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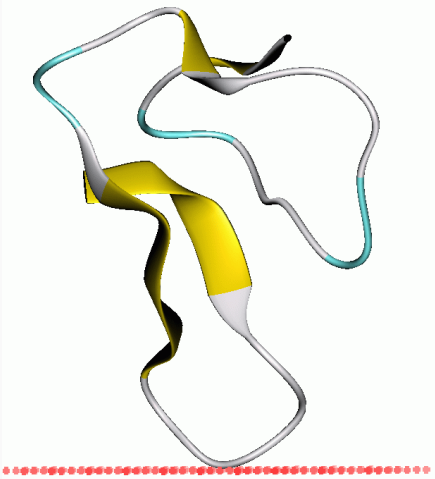
Agouti protein	

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