ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Uncoupling Protein 5 (UCP5/BMCP1) Protein

□ **Cat.** UCP55-R-10	Recombinant Mouse UCP5 protein	**SIZE**: 10 ug
□ **Cat.** UCP55-R-50	Recombinant Mouse UCP5 protein	**SIZE**: 50 ug

The regulation of body weight depends upon the calorie intake and expenditure. It is a very complex and highly regulated process. It involves multiples neural circuits with specific neuropeptides, neurotransmitter transporters and receptors and influenced by peripheral signals. The product of obese gene (Leptin) may influence many of these processes. White and brown adipose tissues (BAT and WAT, respectively) play a central role in body weight and energy expenditure. WAT is the major site for energy storage via triglyceride synthesis and mobilization via lipolysis. **Uncoupling proteins (UCP1-5)** are a family of mitochondria transport proteins that play a critical role in thermoregulatory heat production and maintenance of basal metabolic rate. BAT is able to dissipate energy as heat via uncoupled mitochondrial respiration by a mitochondrial anion carrier, uncoupling protein 1 (UCP1). UCP1 is predicted to contain 6 trans-membrane (TM) domains, a putative purine nucleotide-binding domain (PNBD) and three-mitochondrial energy transfer protein domains (ETPDs). Both amino and C-termini are predicted to be cytoplasmic. **UCP5** or Brain Mitochondrial Carrier Protein 1 or **BMCP1** (human 322 aa, chromosome Xq24, ~35% identity with UCP1-3) is mainly expressed in the brain and testis.

Source of Antigen and Antibodies

Mouse UCP5 protein (full length; gene accession # BC048692) was expressed as fusion protein (His tag- UCP5) in E.coli and purified (>95% with major band at ~36kDa). Purified mouse UCP3 protein is supplied in 10mM Tris-HCl, pH 8.0, 50mM NaH2PO4, 0.8% sodium lauroyl Sarcosine, 0.3M NaCl and 10mM beta-mercapto-ethanol at a conc. of 1mg/ml (lot specific conc. is provided on the vial). Store at -20°C or below. Avoid frequent freeze and thaw.

Recommended Usage

Western Blotting (

ELISA

General References: (1) Yu XX et al (2000) FASEB J. 14, 1611-1618; Sanchis 2000) FASEB J. 14, 1611-1618; Sanchis D et al (1998) JBC 273, 34611-34615; Kim-han JS et al (2001) J. Neurochem. 79, 658-665.

(2) Citations of ADI's Antibodies (see web site for updated list)
Ho W-L, 2005, J. Neurosci. 81, 261-268; Razmara A, 2007, Brain Res. In press; Kim-Han Sook Jeong, 2001, J. Neurochem. 79: 658-668; Sullivan PJ, 2003, Epilepsia (Series 4), Sep2003 Supplement 9, Vol. 44, p176

*This product is for in vitro research use only

Antibodies to UCP1-5
Recombinant mouse and human UCP1-5

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