

Product Specification Sheet

Uncoupling Protein 1 (UCP1)

Cat. UCP13-C

Recombinant Human UCP1 protein control for WB

SIZE: 100 ul

The regulation of body weight depends upon the calorie intake and expenditure. 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. Mouse/rat UCP1 is A 307 AA mitochondrial uncoupling protein (1). It is only 59% homologous with UCP2 (2). UCP1 is primarily expressed in brown adipose tissues.

Source of Antigen and Antibodies

Human UCP1 protein (full length; gene accession # NM_021833) was expressed as fusion protein (His tag-UCP1) in E.coli and purified (>95% with major band at ~33kDa). For Western blot +ve control (**Cat # UCP11-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **UCP11-C** for good visibility with appropriate antibodies. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **UCP11-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

Recommended Usage

Western Blotting

General References: (1) Kozak LP (1988) JBC 263, 12274; Bouillaud F (1986) JBC 261, 1487; Ridley RG (1986) Nucl. Acid Res. 14, 4025; Miroux B (1993); EMBO J 12, 3739; Cassard AM et al (1990) JCB 43, 255; (2) Fleury C (1997) Nature Genetics 15, 269;

(2) Citations of ADI's Antibodies (see web site for updated list)

Mulligan, 2007, J Physiology, 580, 677-684, Apr 2007; Jonathan B, 2007, PNAS,; 104: 5680 – 5685; Rodriguez E, 2001, Eur. J. Physiology 442, 396-403; Ryu J-W, 2003, BBRC 303, 726-731; Nibbelink M, 2001, J. Biol. Chem. 276, 47295; Klein J, 2004, J. Endocrinol., 183: 299 – 307; Lee S-H, 2004, J. Lipid Res., 45, 1674-1682; Justo R, 2005, Life Sciences, 76, 1147-1158; See more refs at the web site.

Related Items

Catalog#	ProdDescription
UCP11-A IgG # 1, aff pure	Anti-Mouse Uncoupling Protein 1 (UCP1)
UCP11-C	Recombinant purified Mouse Uncoupling Protein 1 (UCP1, full length, His tag) WB +ve control
UCP11-S	Anti-Mouse Uncoupling Protein 1 (UCP1) antiserum # 1
UCP12-A IgG #2, aff pure	Anti-Mouse Uncoupling Protein 1 (UCP1)
UCP12-C	Recombinant purified Mouse Uncoupling Protein 1 (UCP1, full length, His tag) WB +ve control
UCP12-P	Mouse Uncoupling Protein 1 (UCP1) Control/blocking peptide # 2
UCP12-S	Anti-Mouse Uncoupling Protein 1 (UCP1) antiserum # 2
UCP13-C	Recombinant purified Human Uncoupling Protein 1 (UCP1, full length, His tag) WB +ve control
UCP15-R-10	Recombinant purified Mouse Uncoupling Protein 1 (UCP1) (full length, His-tag)
UCP16-R-10	Recombinant purified Human Uncoupling Protein 1 (UCP1) (full length, His-tag)

antibodies to UCP1-5 and recombinants proteins are also available. see a complete list of UCP related items at:

<http://4adi.com/commerce/ccc2623-uncoupling-proteins-28ucp1-5-bmcp129-.htm>

UCP13-C 110120A

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