ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Uncoupling Protein 1 (UCP1) Antibodies

Cat. UCP11-S	Rabbit Anti-Mouse UCP1 Antiserum	**SIZE**: 100 ul
Cat. UCP11-A	Rabbit Anti-Mouse UCP1 IgG (aff pure)	**SIZE**: 100 ug
Cat. UCP11-P	Mouse UCP1 Control/blocking peptide	**SIZE**: 100 ug

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). Human UCP1 is located on chromosome 4 (1). UCP1 is primarily expressed in brown adipose tissues.

Source of antigen and antibodies

Antigen	12-aa peptide from **mouse/rat UCP1 (1)**; **Designation (UCP11-P, control/blocking peptide**) conjugated to KLH; **Epitope location**~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#UCP11-S) and IgG, purified over antigen-agarose (Cat # UCP11-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..
Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique). An antibody made to this epitope has detected approx. 32 kDa protein in brown adipose tissues (3). See published refs 2.

ELISA (1:10K-1:100K; using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: We recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissue. See published refs 2.

Specificity & Cross-reactivity

The UCP11-P peptide sequences is 100% conserved in mouse/rat, 91% in golden hamster, 83% in rabbit and pig, and 75% in human and canine UCP1. UCP11-P has no significant homology with UCP2-5. Antibody crossreactivity in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site.

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

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*This product is for in vitro research use only.

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