

**Goat Anti-UCP1 Antibody**  
**Peptide-affinity purified goat antibody**  
**Catalog # AF2132a****Specification**

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**Goat Anti-UCP1 Antibody - Product Information**

Application	WB, E
Primary Accession	<a href="#">P25874</a>
Other Accession	<a href="#">NP_068605</a> , <a href="#">7350</a>
Reactivity	Human
Predicted	Mouse, Rat, Dog
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	33005

**Goat Anti-UCP1 Antibody - Additional Information****Gene ID** 7350**Other Names**

Mitochondrial brown fat uncoupling protein 1, UCP 1, Solute carrier family 25 member 7, Thermogenin, UCP1, SLC25A7, UCP

**Dilution**

WB~~1:1000

E~~N/A

**Format**

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Goat Anti-UCP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Goat Anti-UCP1 Antibody - Protein Information****Name** UCP1 ([HGNC:12517](#))**Function**

Mitochondrial protein responsible for thermogenic respiration, a specialized capacity of brown

adipose tissue and beige fat that participates in non-shivering adaptive thermogenesis to temperature and diet variations and more generally to the regulation of energy balance (By similarity). Functions as a long-chain fatty acid/LCFA and proton symporter, simultaneously transporting one LCFA and one proton through the inner mitochondrial membrane (PubMed:<a href="http://www.uniprot.org/citations/24196960" target="\_blank">24196960</a>, PubMed:<a href="http://www.uniprot.org/citations/28781081" target="\_blank">28781081</a>). However, LCFAs remaining associated with the transporter via their hydrophobic tails, it results in an apparent transport of protons activated by LCFAs. Thereby, dissipates the mitochondrial proton gradient and converts the energy of substrate oxydation into heat instead of ATP. Regulates the production of reactive oxygen species/ROS by mitochondria (By similarity).

#### Cellular Location

Mitochondrion inner membrane {ECO:0000250|UniProtKB:P12242}; Multi-pass membrane protein

#### Tissue Location

Brown adipose tissue..

### Goat Anti-UCP1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Goat Anti-UCP1 Antibody - Images



AF2132a (1 µg/ml) staining of Human Adipose lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

### Goat Anti-UCP1 Antibody - Background

Mitochondrial uncoupling proteins (UCP) are members of the family of mitochondrial anion carrier

proteins (MACP). UCPs separate oxidative phosphorylation from ATP synthesis with energy dissipated as heat, also referred to as the mitochondrial proton leak. UCPs facilitate the transfer of anions from the inner to the outer mitochondrial membrane and the return transfer of protons from the outer to the inner mitochondrial membrane. They also reduce the mitochondrial membrane potential in mammalian cells. Tissue specificity occurs for the different UCPs and the exact methods of how UCPs transfer  $H^+/OH^-$  are not known. UCPs contain the three homologous protein domains of MACPs. This gene is expressed only in brown adipose tissue, a specialized tissue which functions to produce heat.

#### **Goat Anti-UCP1 Antibody - References**

The Effects of Uncoupling Protein 1 and beta3-Adrenergic Receptor Gene Polymorphisms on Weight Loss and Lipid Profiles in Obese Women. Kim JY, et al. Int J Vitam Nutr Res, 2010 Mar. PMID 20803423.

Population Genetic Analysis of the Uncoupling Proteins Supports a Role for UCP3 in Human Cold Resistance. Hancock AM, et al. Mol Biol Evol, 2010 Aug 28. PMID 20802238.

Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.

Large copy number variations are enriched in cases with moderate to extreme obesity. Wang K, et al. Diabetes, 2010 Jul 9. PMID 20622171.

Association study of 182 candidate genes in anorexia nervosa. Pinheiro AP, et al. Am J Med Genet B Neuropsychiatr Genet, 2010 Jul. PMID 20468064.