

Anti-UCP1 Picoband Antibody
Catalog # ABO12818**Specification**

Anti-UCP1 Picoband Antibody - Product Information

Application	WB
Primary Accession	P25874
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Mitochondrial brown fat uncoupling protein 1(UCP1) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-UCP1 Picoband Antibody - Additional Information

Gene ID 7350

Other Names

Mitochondrial brown fat uncoupling protein 1, UCP 1, Solute carrier family 25 member 7, Thermogenin, UCP1 (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=12517)
HGNC:12517

Calculated MW

33005 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Mouse, Rat, Human

Subcellular Localization

Mitochondrion inner membrane; Multi-pass membrane protein.

Tissue Specificity

Brown adipose tissue. .

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Na₃.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human UCP1 (134-165aa TEVVKVRLQAQSHLHGKIPRYTGTYNAYRIIA), different from the related mouse and rat sequences by two amino acids.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins.

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Anti-UCP1 Picoband 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:24196960, PubMed:28781081). 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 oxidation 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

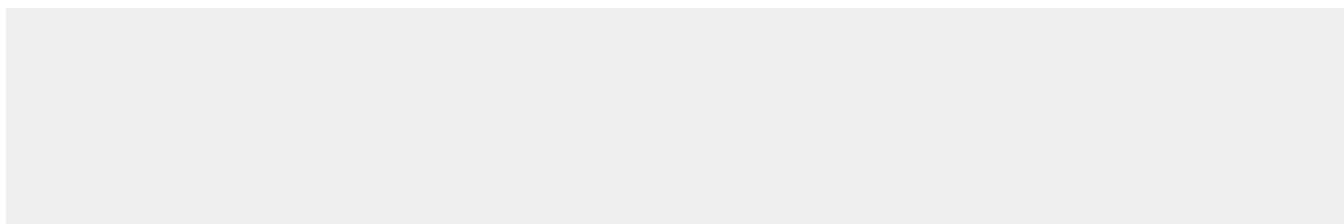
Tissue Location

Brown adipose tissue..

Anti-UCP1 Picoband 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](#)

Anti-UCP1 Picoband Antibody - Images

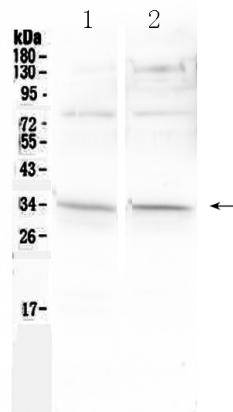


Figure 1. Western blot analysis of UCP1 using anti-UCP1 antibody (ABO12818).

Anti-UCP1 Picoband Antibody - Background

UCP1 (Uncoupling Protein 1), also called THERMOGENIN or UCP, is an uncoupling protein found in the mitochondria of brown adipose tissue (BAT). Using in situ hybridization, the human UCP gene is assigned to 4q31. 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.