

**UCP1 Antibody**  
Catalog # ASC11762**Specification****UCP1 Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">P25874</a>
Other Accession	<a href="#">NP_068605</a> , <a href="#">11225256</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 34 kDa
Application Notes	Observed: 36 kDa KDa UCP1 antibody can be used for detection of UCP1 by Western blot at 1 - 2 µg/ml. Antibody can also be used for Immunohistochemistry starting at 2.5 µg/mL.

**UCP1 Antibody - Additional Information**

Gene ID **7350**  
**Target/Specificity**  
UCP1; UCP1 antibody is human, mouse and rat reactive.

**Reconstitution & Storage**

UCP1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

**Precautions**

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

**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

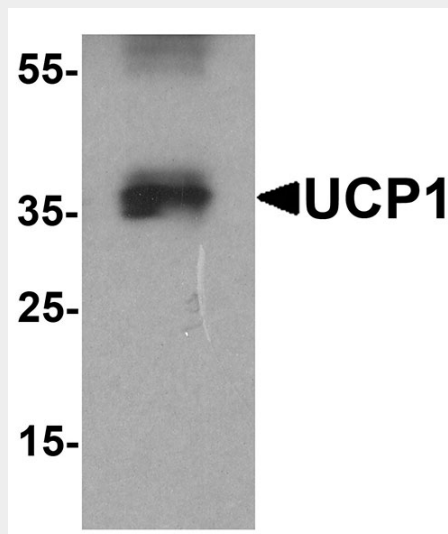
Brown adipose tissue..

### UCP1 Antibody - Protocols

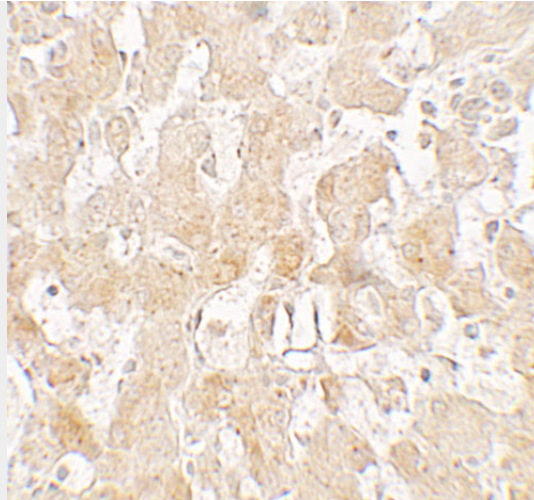
Provided below are standard protocols that you may find useful for product applications.

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

### UCP1 Antibody - Images



Western blot analysis of UCP1 in HeLa cell lysate with UCP1 antibody at 1  $\mu$ g/ml.



Immunohistochemistry of UCP1 in human liver tissue with UCP1 antibody at 2.5 µg/mL.

### **UCP1 Antibody - Background**

The mitochondrial brown fat uncoupling protein 1 (UCP1) is a member of the family of mitochondrial anion carrier proteins (MACP) (1). 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 (1). UCP1 is expressed only in brown adipose tissue, a specialized tissue which functions to produce heat (1).

### **UCP1 Antibody - References**

1. Rial E, Gonzalez-Barroso MM, Fleury C, et al. The structure and function of the brown fat uncoupling protein UCP1: current status. *Biofactors* 1998; 8:209-19.