

Anti-UCP2 Antibody
Rabbit polyclonal antibody to UCP2
Catalog # AP60867**Specification**

Anti-UCP2 Antibody - Product Information

| | |
|-------------------|---|
| Application | WB, IH |
| Primary Accession | P55851 |
| Other Accession | P70406 |
| Reactivity | Human, Mouse, Rat, Bovine, SARS, Drosophila |
| Host | Rabbit |
| Clonality | Polyclonal |
| Calculated MW | 33229 |

Anti-UCP2 Antibody - Additional Information**Gene ID** 7351**Other Names**

SLC25A8; Mitochondrial uncoupling protein 2; UCP 2; Solute carrier family 25 member 8; UCPH

Target/Specificity

Recognizes endogenous levels of UCP2 protein.

Dilution

WB~~WB (1/500 - 1/1000), IH (1/50 - 1/100)

IH~~WB (1/500 - 1/1000), IH (1/50 - 1/100)

Format

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

Storage

Store at -20 °C. Stable for 12 months from date of receipt

Anti-UCP2 Antibody - Protein Information**Name** UCP2**Synonyms** SLC25A8 {ECO:0000303|PubMed:33798544}**Function**

Antiporter that exports dicarboxylate intermediates of the Krebs cycle in exchange for phosphate plus a proton across the inner membrane of mitochondria, a process driven by mitochondrial motive force with an overall impact on glycolysis, glutaminolysis and glutathione-dependent redox balance. Continuous export of oxaloacetate and related four-carbon dicarboxylates from mitochondrial matrix into the cytosol negatively regulates the oxidation of acetyl-CoA substrates

via the Krebs cycle, lowering the ATP/ADP ratio and reactive oxygen species (ROS) production (PubMed:24395786). Proton transporter activity is debated, but if it occurs it may mediate inducible proton re-entry into the mitochondrial matrix affecting ATP turnover as a protection mechanism against oxidative stress. Proton re-entry may be coupled to metabolite transport to allow for proton flux switching and optimal ATP turnover (PubMed:11171965, PubMed:33373220, PubMed:11278935, PubMed:22524567, PubMed:26182433) (By similarity). Regulates the use of glucose as a source of energy. Required for glucose-induced DRP1- dependent mitochondrial fission and neuron activation in the ventromedial nucleus of the hypothalamus (VMH). This mitochondrial adaptation mechanism modulates the VMH pool of glucose-excited neurons with an impact on systemic glucose homeostasis (By similarity). Regulates ROS levels and metabolic reprogramming of macrophages during the resolution phase of inflammation. Attenuates ROS production in response to IL33 to preserve the integrity of the Krebs cycle required for persistent production of itaconate and subsequent GATA3-dependent differentiation of inflammation-resolving alternatively activated macrophages (By similarity). Can unidirectionally transport anions including L-malate, L-aspartate, phosphate and chloride ions (PubMed:24395786, PubMed:22524567, PubMed:26182433). Does not mediate adaptive thermogenesis (By similarity).

Cellular Location

Mitochondrion inner membrane {ECO:0000250|UniProtKB:P70406}; Multi-pass membrane protein

Tissue Location

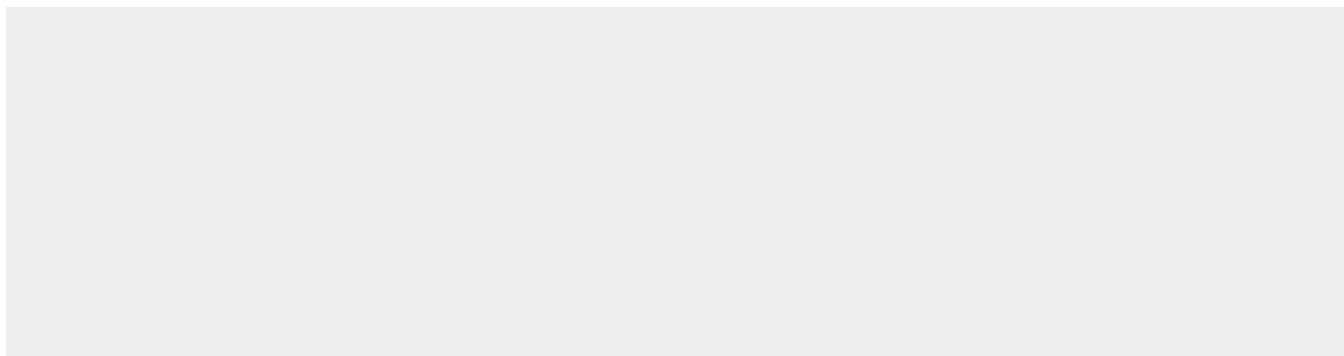
Widely expressed in adult human tissues, including tissues rich in macrophages. Most expressed in white adipose tissue and skeletal muscle.

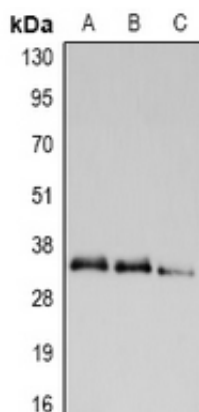
Anti-UCP2 Antibody - Protocols

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

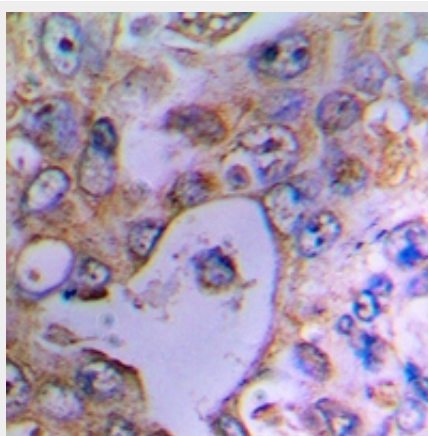
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-UCP2 Antibody - Images





Western blot analysis of UCP2 expression in HEK293T (A), Raw264.7 (B), PC12 (C) whole cell lysates.



Immunohistochemical analysis of UCP2 staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Anti-UCP2 Antibody - Background

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human UCP2. The exact sequence is proprietary.