

**Mouse Monoclonal Antibody to UCP3**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO2337a****Specification**

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**Mouse Monoclonal Antibody to UCP3 - Product Information**

Application	WB, ICC, E
Primary Accession	<a href="#">P55916</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG2a
Calculated MW	34.2kDa KDa

**Description**

Mitochondrial uncoupling proteins (UCP) are members of the larger 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. The different UCPs have tissue-specific expression; this gene is primarily expressed in skeletal muscle. This gene's protein product is postulated to protect mitochondria against lipid-induced oxidative stress. Expression levels of this gene increase when fatty acid supplies to mitochondria exceed their oxidation capacity and the protein enables the export of fatty acids from mitochondria. UCPs contain the three solcar protein domains typically found in MACPs. Two splice variants have been found for this gene.;

**Immunogen**

Purified recombinant fragment of human UCP3 (AA: 1-113 and 217-312) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide

**Application Note**

ELISA: 1/10000; WB: 1/500 - 1/2000; ICC: 1/200 - 1/1000;

**Mouse Monoclonal Antibody to UCP3 - Additional Information**

**Gene ID** 7352

**Other Names**

SLC25A9

**Dilution**

WB~~1:1000

ICC~~N/A

E~~N/A

**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

Mouse Monoclonal Antibody to UCP3 is for research use only and not for use in diagnostic or therapeutic procedures.

## Mouse Monoclonal Antibody to UCP3 - Protein Information

**Name** UCP3 {ECO:0000303|PubMed:9180264, ECO:0000312|HGNC:HGNC:12519}

### Function

Putative transmembrane transporter that plays a role in mitochondrial metabolism via an as yet unclear mechanism (PubMed:<a href="http://www.uniprot.org/citations/21775425" target="\_blank">21775425</a>, PubMed:<a href="http://www.uniprot.org/citations/36114012" target="\_blank">36114012</a>). Originally, this mitochondrial protein was thought to act as a proton transmembrane transporter from the mitochondrial intermembrane space into the matrix, causing proton leaks through the inner mitochondrial membrane, thereby uncoupling mitochondrial membrane potential generation from ATP synthesis (PubMed:<a href="http://www.uniprot.org/citations/11171965" target="\_blank">11171965</a>, PubMed:<a href="http://www.uniprot.org/citations/12670931" target="\_blank">12670931</a>, PubMed:<a href="http://www.uniprot.org/citations/12734183" target="\_blank">12734183</a>, PubMed:<a href="http://www.uniprot.org/citations/9305858" target="\_blank">9305858</a>). However, this function is controversial and uncoupling may not be the function, or at least not the main function, but rather a consequence of more conventional metabolite transporter activity (PubMed:<a href="http://www.uniprot.org/citations/11707458" target="\_blank">11707458</a>).

### Cellular Location

Mitochondrion inner membrane {ECO:0000250|UniProtKB:P56501}; Multi-pass membrane protein

### Tissue Location

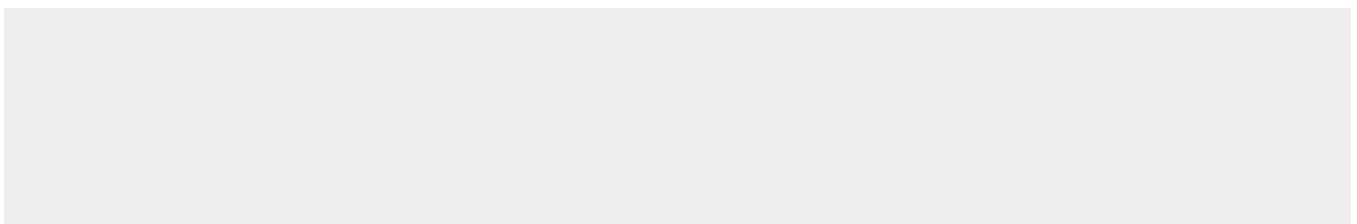
Only in skeletal muscle and heart (PubMed:9305858). Also expressed in white and brown adipose tissues (PubMed:9305858). Is more expressed in glycolytic than in oxidative skeletal muscles

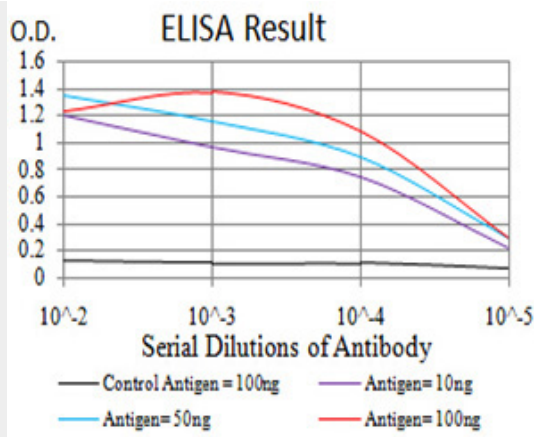
## Mouse Monoclonal Antibody to UCP3 - Protocols

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

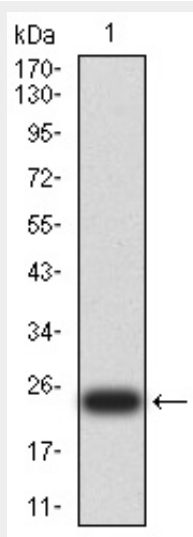
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## Mouse Monoclonal Antibody to UCP3 - Images

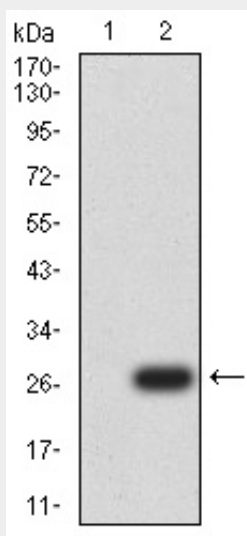




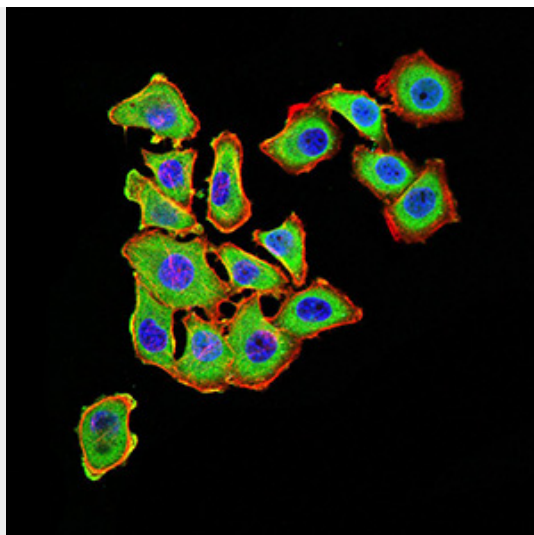
Black line: Control Antigen (100 ng); Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line: Antigen (100 ng)



Western blot analysis using UCP3 mAb against human UCP3 (AA: 1-113 and 217-312) recombinant protein. (Expected MW is 24 kDa)



Western blot analysis using UCP3 mAb against HEK293 (1) and UCP3 (AA:1-113 and 217-312)-hlgGfC transfected HEK293 (2) cell lysate.



Immunofluorescence analysis of HL-7702 cells using UCP3 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin. Secondary antibody from Fisher

#### **Mouse Monoclonal Antibody to UCP3 - References**

1.J Biol Chem. 2011 Sep 16;286(37):32533-41. ; 2.Nutr Hosp. 2012 Jul-Aug;27(4):1190-5. ;