10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Mouse Monoclonal Antibody to UCP3

Purified Mouse Monoclonal Antibody
Catalog # AO2337a

Product Information

Application	WB, ICC, E
Primary Accession	P55916
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	6B8C6
Isotype	Mouse IgG2a
Calculated MW	34216
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;

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.

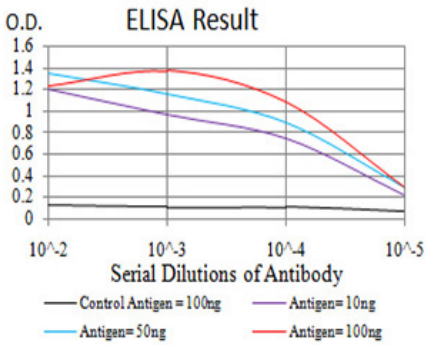
Protein Information

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:21775425, PubMed:36114012). 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:11171965, PubMed:12670931, PubMed:12734183, PubMed:9305858). 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:11707458).
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

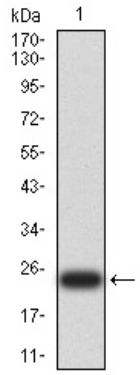
References

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

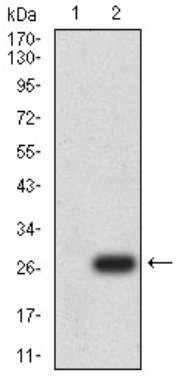
Images



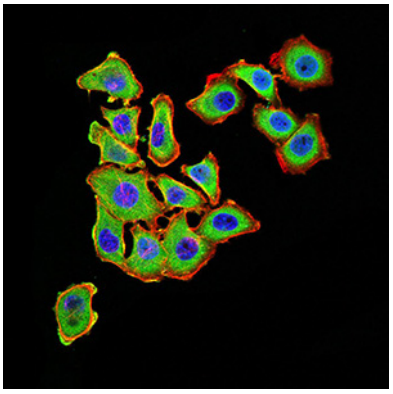
Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)



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)-hIgGFc 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