

**UCP1 Antibody (monoclonal) (M03)****Mouse monoclonal antibody raised against a partial recombinant UCP1.****Catalog # AT4459a****Specification**

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**UCP1 Antibody (monoclonal) (M03) - Product Information**

Application	WB, E
Primary Accession	<a href="#">P25874</a>
Other Accession	<a href="#">NM_021833</a>
Reactivity	Human, Mouse
Host	mouse
Clonality	Monoclonal
Isotype	IgG2a Kappa
Calculated MW	33005

**UCP1 Antibody (monoclonal) (M03) - Additional Information****Gene ID** 7350**Other Names**

Mitochondrial brown fat uncoupling protein 1, UCP 1, Solute carrier family 25 member 7, Thermogenin, UCP1, SLC25A7, UCP

**Target/Specificity**

UCP1 (NP\_068605, 232 a.a. ~ 267 a.a) partial recombinant protein with GST tag. MW of the GST tag alone is 26 KDa.

**Dilution**

WB~~1:500~1000

**Format**

Clear, colorless solution in phosphate buffered saline, pH 7.2 .

**Storage**

Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

**Precautions**

UCP1 Antibody (monoclonal) (M03) is for research use only and not for use in diagnostic or therapeutic procedures.

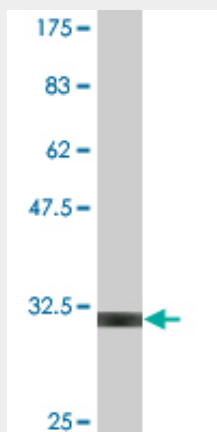
**UCP1 Antibody (monoclonal) (M03) - Protocols**

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

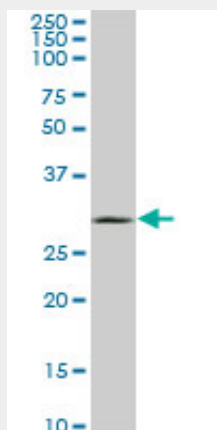
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

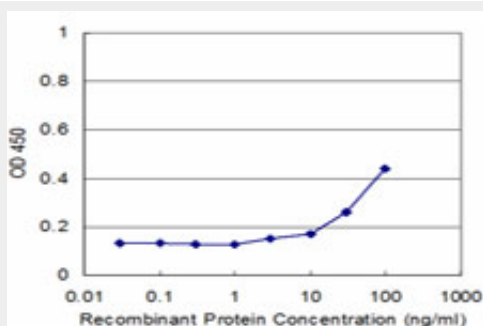
### UCP1 Antibody (monoclonal) (M03) - Images



Antibody Reactive Against Recombinant Protein. Western Blot detection against Immunogen (29.7 kDa) .



UCP1 monoclonal antibody (M03), clone 4B7. Western Blot analysis of UCP1 expression in NIH/3T3 (Cat # AT4459a)



Detection limit for recombinant GST tagged UCP1 is approximately 3ng/ml as a capture antibody.

### UCP1 Antibody (monoclonal) (M03) - Background

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.

#### **UCP1 Antibody (monoclonal) (M03) - References**

The Effects of Uncoupling Protein 1 and beta3-Adrenergic Receptor Gene Polymorphisms on Weight Loss and Lipid Profiles in Obese Women. Kim JY, et al. Int J Vitam Nutr Res, 2010 Mar. PMID 20803423. Population Genetic Analysis of the Uncoupling Proteins Supports a Role for UCP3 in Human Cold Resistance. Hancock AM, et al. Mol Biol Evol, 2010 Aug 28. PMID 20802238. Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086. Large copy number variations are enriched in cases with moderate to extreme obesity. Wang K, et al. Diabetes, 2010 Jul 9. PMID 20622171. Association study of 182 candidate genes in anorexia nervosa. Pinheiro AP, et al. Am J Med Genet B Neuropsychiatr Genet, 2010 Jul. PMID 20468064.