

#14670 Store at -20°C

UCP1 (D9D6X) Rabbit mAb

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	M	Endogenous	30	Rabbit IgG	#P25874	7350

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Immunoprecipitation

1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity / Sensitivity

UCP1 (D9D6X) Rabbit mAb recognizes endogenous levels of total UCP1 protein. This antibody does not cross-react with UCP2 and UCP3 proteins.

Species predicted to react based on 100% sequence homology:

Human

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human UCP1 protein.

Background

Uncoupling protein 1 (UCP1) is a mitochondrial inner membrane transport protein that is primarily expressed in brown adipose tissue (BAT). UCP1 dissipates the pH gradient resulting from oxidative phosphorylation, which uncouples ATP synthesis from oxidative phosphorylation and leads to the release of heat energy. As a result, UCP1 plays an important role in thermogenesis (reviewed in 1). Research studies indicate that subcutaneous white adipose depots in mice contain beige adipocytes that express low levels of UCP1 protein (2). Additional studies show possible differences in thermogenesis in individuals carrying specific polymorphisms in the corresponding *UCP1* gene (3). Related studies link UCP1 to the possible development of obesity and type 2 diabetes (4).

Background References

1. Azzu, V. and Brand, M.D. (2010) *Trends Biochem Sci* 35, 298-307.
2. Wu, J. et al. (2012) *Cell* 150, 366-76.
3. Nagai, N. et al. (2003) *J Clin Endocrinol Metab* 88, 5661-7.
4. Brondani, L.A. et al. (2012) *Arq Bras Endocrinol Metabol* 56, 215-25.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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