

UCP1 Blocking Peptide(C-term)
Synthetic peptide
Catalog # BP19804b**Specification**

UCP1 Blocking Peptide(C-term) - Product Information

Primary Accession [P25874](#)
Other Accession [NP_068605.1](#)

UCP1 Blocking Peptide(C-term) - 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

The synthetic peptide sequence is selected from aa 289-302 of HUMAN UCP1

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

UCP1 Blocking Peptide(C-term) - Protein Information

Name UCP1 ([HGNC:12517](#))

Function

Mitochondrial protein responsible for thermogenic respiration, a specialized capacity of brown adipose tissue and beige fat that participates in non-shivering adaptive thermogenesis to temperature and diet variations and more generally to the regulation of energy balance (By similarity). Functions as a long-chain fatty acid/LCFA and proton symporter, simultaneously transporting one LCFA and one proton through the inner mitochondrial membrane (PubMed:24196960, PubMed:28781081). However, LCFAs remaining associated with the transporter via their hydrophobic tails, it results in an apparent transport of protons activated by LCFAs. Thereby, dissipates the mitochondrial proton gradient and converts the energy of substrate oxydation into heat instead of ATP. Regulates the production of reactive oxygen species/ROS by mitochondria (By similarity).

Cellular Location

Mitochondrion inner membrane {ECO:0000250|UniProtKB:P12242}; Multi-pass membrane protein

Tissue Location

Brown adipose tissue..

UCP1 Blocking Peptide(C-term) - Protocols

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

- [Blocking Peptides](#)

UCP1 Blocking Peptide(C-term) - Images**UCP1 Blocking Peptide(C-term) - 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 Blocking Peptide(C-term) - References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Wang, K., et al. Diabetes 59(10):2690-2694(2010)
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Hancock, A.M., et al. Mol. Biol. Evol. (2010) In press :
Kim, J.Y., et al. Int J Vitam Nutr Res 80(2):87-96(2010)