10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.622.0609

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

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)
Yamamoto, K., et al. Biochem. Biophys. Res. Commun. 400(1):175-180(2010)
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)

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). 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 {ECO:0000250|UniProtKB:P04633}

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