

## Abstract

UCP2 is one of four discovered homologues of a well-known uncoupling protein UCP1 implicated in non-shivering thermogenesis. In contrast to UCP1, this particular homologue is ubiquitously expressed in many human tissues, where it performs a broader range of functions including uncoupling and specific transport of ions and metabolites. This work characterises UCP2, focusing on its activity in the cells of innate and adaptive immunity. To conclude, this work summarises the role of UCP2 in several diseases, such as Type 1 diabetes mellitus, Alzheimer's and Parkinson's disease and ulcerative colitis. Emphasis is put on the possible utilisation of this protein in the treatment of the above-mentioned diseases.

**Keywords:** immune cells, uncoupling proteins, UCP2