**UCP1 (4E5): sc-293418**

**BACKGROUND**

The uncoupling protein UCP1 (formerly designated UCP) is an integral membrane protein unique to brown adipose tissue mitochondria. UCP1 forms a dimer that acts as a proton channel, which can uncouple oxidative phosphorylation by dissipating the electrochemical potential across the inner mitochondrial membrane. This process induces heat production in brown adipose tissue and is involved in regulation of body temperature and glucose metabolism. UCP2 is a structurally related protein that also uncouples mitochondrial respiration. It is more widely expressed in human and mouse tissues, including white adipose tissue and muscle, than is UCP. UCP2 is thought to play a role in body weight regulation.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: UCP1 (human) mapping to 4q31.1; Ucp1 (mouse) mapping to 8 C2.

**SOURCE**

UCP1 (4E5) is a mouse monoclonal antibody raised against amino acids 232-267 representing partial length UCP1 of human origin.

**PRODUCT**

Each vial contains 100 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**STORAGE**

Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**APPLICATIONS**

UCP1 (4E5) is recommended for detection of UCP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:1000-1:10000), immunoprecipitation (1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for UCP1 siRNA (h): sc-42680, UCP1 siRNA (m): sc-42681, UCP1 shRNA Plasmid (h): sc-42680-SH, UCP1 shRNA Plasmid (m): sc-42681-SH, UCP1 shRNA (h) Lentiviral Particles: sc-42680-V and UCP1 shRNA (m) Lentiviral Particles: sc-42681-V.

Molecular Weight of UCP1: 33 kDa.

Positive Controls: A549 cell lysate: sc-2413, NIH/3T3 whole cell lysate: sc-2210 or human PBL tissue extract.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG BP-HRP: sc-516102 or m-IgG Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

**DATA**

UCP1 (4E5): sc-293418: Western blot analysis of UCP1 expression in A549 (A) and NIH/3T3 (B) whole cell lysates and human PBL tissue extract (C).

UCP1 (4E5): sc-290418: Western blot analysis of human recombinant UCP1 fusion protein.

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

For research use only, not for use in diagnostic procedures.