

DESCRIPTION

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| Species Reactivity | Human/Mouse |
| Specificity | Detects human and mouse UCP1 in Western blots. |
| Source | Monoclonal Mouse IgG _{2B} Clone # 536435 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | <i>E. coli</i> -derived recombinant human UCP1 Met1-Thr307 Accession # P25874 |
| Conjugate | Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm |
| Formulation | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

| | Recommended Concentration | Sample |
|---|----------------------------------|---|
| Intracellular Staining by Flow Cytometry | 0.25-1 µg/10 ⁶ cells | 3T3-L1 mouse embryonic fibroblast adipose-like cell line fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005) |

PREPARATION AND STORAGE

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| Shipping | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| Stability & Storage | Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied. |

BACKGROUND

Mitochondrial brown fat uncoupling protein 1 (UCP1; also Thermogenin and UCP) is a 33 kDa member of the mitochondrial carrier family of proteins. Human and mouse UCP1 are both 307 amino acids (aa) in length and contain three solcar repetitive regions and six transmembrane segments. UCP1 is found in brown adipose tissue, where it becomes activated by fatty acids and inhibited by nucleotides. It functions as a mitochondrial transporter that creates a proton leak across the inner mitochondrial membrane, uncoupling oxidative phosphorylation from ATP synthesis. As a result, energy is dissipated in the form of heat. Human and mouse UCP1 share 79% aa sequence identity.

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