Rabbit Mitochondrial brown fat uncoupling protein 1 (UCP1) ELISA Kit

Catalog No: #EK11343

Package Size: #EK11343-1 48T #EK11343-2 96T

Orders: order@signalwayantibody.com
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Description

Product Name	Rabbit Mitochondrial brown fat uncoupling protein 1 (UCP1) ELISA Kit
Brief Description	ELISA Kit
Applications	ELISA
Species Reactivity	Rabbit (Oryctolagus cuniculus)
Other Names	SLC25A7; UCP; mitochondrial brown fat uncoupling protein|thermogenin|uncoupling protein 1
Accession No.	P14271
Uniprot	P14271
GeneID	100328618;
Storage	The stability of ELISA kit is determined by the loss rate of activity. The loss rate of this kit is less than 5% within the expiration date under appropriate storage condition. The loss rate was determined by accelerated thermal degradation test. Keep the kit at 37C for 4 and 7 days, and compare O.D.values of the kit kept at 37C with that of at recommended temperature. (referring from China Biological Products Standard, which was calculated by the Arrhenius equation. For ELISA kit, 4 days storage at 37C can be considered as 6 months at 2 - 8C, which means 7 days at 37C equaling 12 months at 2 - 8C).

Application Details

Detect Range:0.312-20 ng/mL

Sensitivity:0.114 ng/mL

Sample Type:Serum, Plasma, Other biological fluids

Sample Volume: 1-200 µL

Assay Time:1-4.5h

Detection wavelength:450 nm

Product Description

Detection Method:SandwichTest principle:This assay employs a two-site sandwich ELISA to quantitate UCP1 in samples. An antibody specific for UCP1 has been pre-coated onto a microplate. Standards and samples are pipetted into the wells and anyUCP1 present is bound by the immobilized antibody. After removing any unbound substances, a biotin-conjugated antibody specific for UCP1 is added to the wells. After washing, Streptavidin conjugated Horseradish Peroxidase (HRP) is added to the wells. Following a wash to remove any unbound avidin-enzyme reagent, a substrate solution is added to the wells and color develops in proportion to the amount of UCP1 bound in the initial step. The color development is stopped and the intensity of the color is measured.Product Overview:UCP1 is activated in the brown fat cell by fatty acids and inhibited by nucleotides. Sympathetic nervous system terminals release Norepinephrine onto a Beta-3 adrenergic receptor on the plasma membrane. This activates adenylyl cyclase, which catalyses the conversion of ATP to cyclic AMP. cAMP activates protein kinase A, causing its active C subunits to be freed from its regulatory R subunits. Active protein kinase A, in turn, phosphorylates triacylglycerol lipase, thereby activating it. The lipase converts triacylglycerols into free fatty acids, which activate UCP1, overriding the inhibition caused by purine nucleodides. At the termination of thermogenesis, the mitochondria oxidize away the residual fatty acids, UCP1 inactivates and the cell resumes its normal energy-conserving mode.

Note: This product is for in vitro research use only