Human LEP/Leptin ELISA Kit

E45K00135

Catalog Number:E45K00135

Species Reactivity: Human

Storage: Store at +4°C. Please refer to protocols.

Cite ID#:EN5520586

Type: Human ELISA Kits

Research Field: Metabolism

Description: Human LEP/Leptin ELISA Kit is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit designed for the quantitative measurement of LEP in biological samples. Our rigorously validated, ready-to-go Human LEP/Leptin ELISA Kit use a simple protocol that easily integrates into your current processes, allowing you to rapidly and accurately detect LEP in your samples. Appropriate sample types may include Cell Culture Supernates, Serum, Platelet-poor EDTA Plasma, Platelet-poor Heparin Plasma, Urine. Precision Intra-Assay Precision (Precision within an assay): Three samples of known concentration were tested several times on one plate to assess intra-assay precision. Inter-Assay Precision (Precision between assays): Three samples of known concentration were tested in several separate assays to assess inter-assay precision. Assays were performed by at least two technicians using two lots of components.

Assay type: Sandwich

Detection principle: Spectrophotometrical

Sample type: This immunoassay kit allows for the in vitro quantitative determination in Serum, plasma, tissue homogenates, cell culture supernates and other biological fluids.

Sensitivity:0.26 ng/mL

Assay range:0.625-40 ng/mL

Kit components: Assay Plate, Standard, Sample Diluent, Assay Diluent A&B, Detection Reagent A&B, Wash Buffer, Substrate, Stop Solution.

Other reagents required: Deionized or distilled water

Gene Name:LEP

Swiss-Prot No.:P41159

Function: Key player in the regulation of energy balance and body weight control. Once released into the circulation, has

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central and peripheral effects by binding LEPR, found in many tissues, which results in the activation of several major signaling pathways (PubMed:17344214, PubMed:15899045, PubMed:19688109). In the hypothalamus, acts as an appetite-regulating factor that induces a decrease in food intake and an increase in energy consumption by inducing anorexinogenic factors and suppressing orexigenic neuropeptides, also regulates bone mass and secretion of hypothalamo-pituitary-adrenal hormones. In the periphery, increases basal metabolism, influences reproductive function, regulates pancreatic beta-cell function and insulin secretion, is pro-angiogenic for endothelial cell and affects innate and adaptive immunity (By similarity) (PubMed:8589726, PubMed:11460888, PubMed:19688109, PubMed:24340098, PubMed:25060689). In the arcuate nucleus of the hypothalamus, activates by depolarization POMC neurons inducing FOS and SOCS3 expression to release anorexigenic peptides and inhibits by hyperpolarization NPY neurons inducing SOCS3 with a consequent reduction on release of orexigenic peptides (By similarity). In addition to its known satiety inducing effect, has a modulatory role in nutrient absorption. In the intestine, reduces glucose absorption by enterocytes by activating PKC and leading to a sequential activation of p38, PI3K and ERK signaling pathways which exerts an inhibitory effect on glucose absorption (PubMed:24340098). Acts as a growth factor on certain tissues, through the activation of different signaling pathways increases expression of genes involved in cell cycle regulation such as CCND1, via JAK2-STAT3 pathway, or VEGFA, via MAPK1/3 and PI3K-AKT1 pathways (By similarity) (PubMed:17344214). May also play an apoptotic role via JAK2-STAT3 pathway and up-regulation of BIRC5 expression (PubMed:18242580). Pro-angiogenic, has mitogenic activity on vascular endothelial cells and plays a role in matrix remodeling by regulating the expression of matrix metalloproteinases (MMPs) and tissue inhibitors of metalloproteinases (TIMPs) (PubMed:11460888). In innate immunity,

Form:ELISA Kits

Synonyms: Obese protein,Obesity factor,OB,OBS