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PGC-1alpha Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1615a

Product Information

Application	WB, E
Primary Accession	Q9UBK2
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1G8
Isotype	IgG2b
Calculated MW	91027
Description	The protein encoded by this gene is a transcriptional coactivator that regulates the genes involved in energy metabolism. This protein interacts with PPARgamma, which permits the interaction of this protein with multiple transcription factors. This protein can interact with, and regulate the activities of, cAMP response element binding protein (CREB) and nuclear respiratory factors (NRFs). It provides a direct link between external physiological stimuli and the regulation of mitochondrial biogenesis, and is a major factor that regulates muscle fiber type determination. This protein may be also involved in controlling blood pressure, regulating cellular cholesterol homoeostasis, and the development of obesity.
Immunogen	Purified recombinant fragment of human PGC-1alpha expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	10891
Other Names	Peroxisome proliferator-activated receptor gamma coactivator 1-alpha, PGC-1-alpha, PPAR-gamma coactivator 1-alpha, PPARGC-1-alpha, Ligand effect modulator 6, PPARGC1A, LEM6, PGC1, PGC1A, PPARGC1
Dilution	WB~~1/500 - 1/2000 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PGC-1alpha Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PPARGC1A
Function	Transcriptional coactivator for steroid receptors and nuclear receptors (PubMed:10713165, PubMed:20005308, PubMed:21376232, PubMed:28363985, PubMed:32433991). Greatly increases the transcriptional activity of PPARG and thyroid hormone receptor on the uncoupling protein promoter (PubMed:10713165, PubMed:20005308, PubMed:21376232). Can regulate key mitochondrial genes that contribute to the program of adaptive thermogenesis (PubMed:10713165, PubMed:20005308, PubMed:21376232). Plays an essential role in metabolic reprogramming in response to dietary availability through coordination of the expression of a wide array of genes involved in glucose and fatty acid metabolism (PubMed:10713165, PubMed:20005308, PubMed:21376232). Acts as a key regulator of gluconeogenesis: stimulates hepatic gluconeogenesis by increasing the expression of gluconeogenic enzymes, and acting together with FOXO1 to promote the fasting gluconeogenic program (PubMed:16753578, PubMed:23142079). Induces the expression of PERM1 in the skeletal muscle in an ESRRA- dependent manner (PubMed:23836911). Also involved in the integration of the circadian rhythms and energy metabolism (By similarity). Required for oscillatory expression of clock genes, such as BMAL1 and NR1D1, through the coactivation of RORA and RORC, and metabolic genes, such as PDK4 and PEPCK (By similarity).
Cellular Location	[Isoform 1]: Nucleus. Nucleus, PML body {ECO:0000250|UniProtKB:O70343} [Isoform B4-8a]: Cytoplasm. Nucleus [Isoform 9]: Nucleus
Tissue Location	Heart, skeletal muscle, liver and kidney. Expressed at lower levels in brain and pancreas and at very low levels in the intestine and white adipose tissue. In skeletal muscle, levels were lower in obese than in lean subjects and fasting induced a 2-fold increase in levels in the skeletal muscle in obese subjects

References

1. Diabetes Res Clin Pract. 2009 Dec;86(3):168-72. 2.Cell Metab. 2009 Sep;10(3):189-98.

Images

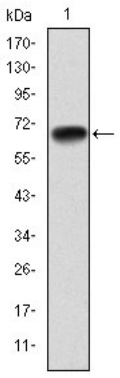
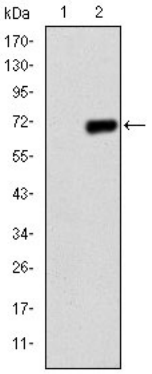


Figure 1: Western blot analysis using PGC-1alpha mAb against human PGC-1alpha (AA: 570-798) recombinant protein. (Expected MW is 70 kDa)

Figure 2: Western blot analysis using PGC-1alpha mAb against HEK293 (1) and PGC-1alpha-hIgGFc transfected HEK293 (2) cell lysate.



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