

PGC-1alpha Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1615a**Specification****PGC-1alpha Antibody - Product Information**

Application	WB, E
Primary Accession	O9UBK2
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2b
Calculated MW	91kDa KDa

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 homeostasis, 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.

PGC-1alpha Antibody - 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.

PGC-1alpha Antibody - 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

PGC-1alpha Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

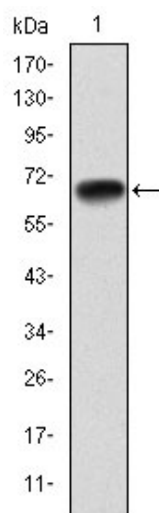
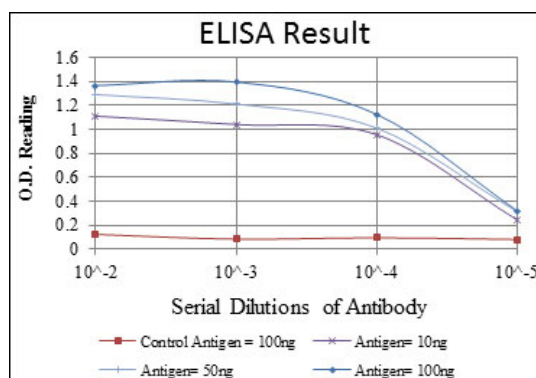


Figure 1: Western blot analysis using PGC-1alpha mAb against human PGC-1alpha (AA: 570-798) recombinant protein. (Expected MW is 70 kDa)

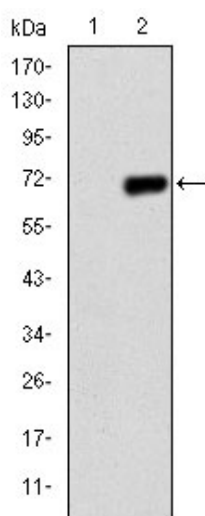


Figure 2: Western blot analysis using PGC-1alpha mAb against HEK293 (1) and PGC-1alpha-hlgGfc transfected HEK293 (2) cell lysate.

PGC-1alpha Antibody - References

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