10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PGC-1alpha Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10722

Specification

PGC-1alpha Antibody - Product Information

Application	**WB**
Primary Accession	O70343
Other Accession	NP_032930.1
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**90588**

PGC-1alpha Antibody - Additional Information

Gene ID 19017

Positive Control	**Jurkat cell lysate**
Application & Usage	**Western blot analysis (0.5-4 µg/ml). However, the optimal conditions should be determined individually. Jurkat cell lysate can be used as a positive control.**

Other Names
peroxisome proliferator-activated receptor gamma coactivator 1-alpha, PPAR Gamma Coactivator-1, Pgc-1alphaa, PPAR gamma coactivator variant form, PGC-1-alpha, PPARGC-1-alpha, PPAR-gamma coactivator 1-alpha

Target/Specificity
PGC-1alpha

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5 mg/ml) affinity purified rabbit anti-PGC-1alpha polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 0.01% thimerosal

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

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

Synonyms Pgc1, Pgc1a, Ppargc1

Function
Transcriptional coactivator for steroid receptors and nuclear receptors (PubMed:12754525, PubMed:15744310, PubMed:23217713, PubMed:9529258). Greatly increases the transcriptional activity of PPARG and thyroid hormone receptor on the uncoupling protein promoter (PubMed:12754525, PubMed:15744310, PubMed:23217713, PubMed:9529258). Can regulate key mitochondrial genes that contribute to the program of adaptive thermogenesis (PubMed:12754525, PubMed:15744310, PubMed:23217713, PubMed:9529258). 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:12754525, PubMed:15744310, PubMed:23217713, PubMed:9529258). 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:12754525). Induces the expression of PERM1 in the skeletal muscle in an ESRRA-dependent manner (By similarity). Also involved in the integration of the circadian rhythms and energy metabolism (PubMed:17476214). 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 (PubMed:17476214).

Cellular Location
Nucleus. Nucleus, PML body

Tissue Location
White quadriceps and red tibialis anterior (TA) muscles, liver, kidney and brown adipose tissue (at protein level) Skeletal muscle, brown adipose tissue, heart, kidney and brain

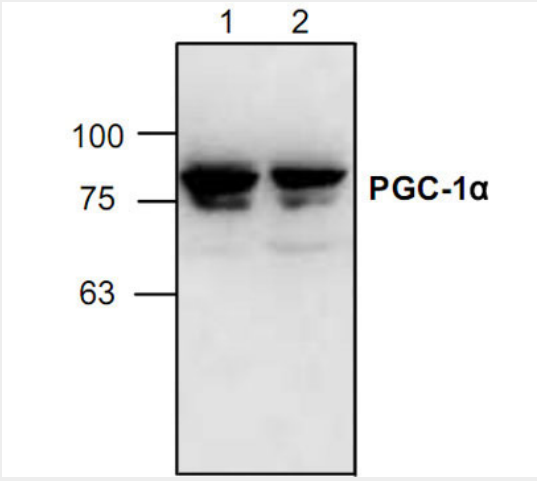
PGC-1alpha Antibody - Protocols

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PGC-1alpha Antibody - Images



Western blot analysis of PGC-1α with Jurkat cell lysate (Lane 1 & 2).

PGC-1alpha Antibody - Background

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 also be involved in controlling blood pressure, regulating cellular cholesterol homoeostasis, and the development of obesity.