# Product datasheet

## Anti-PGC1 alpha antibody ab54481

**Product name**: Anti-PGC1 alpha antibody  
**Description**: Rabbit polyclonal to PGC1 alpha  
**Host species**: Rabbit  
**Specificity**: The immunogen sequence for this antibody is 78% homologous with PGC1 beta (Uniprot: Q86YN6).  

### Tested applications

**Suitable for**: WB  
**Reacts with**: Mouse, Human  
**Predicted to work with**: Horse, Chicken, Cow, Dog, Pig, Cynomolgus monkey, Rhesus monkey, Opossum

### Immunogen

Synthetic peptide corresponding to Human PGC1 alpha aa 777-797.  
**Sequence**: C-SKYDSLDFDSLLKEAQRSLRR  
**Database link**: Q9UBK2

### General notes

This product may be covered by one or more of the following U.S. Patents.  
6,166,192  
6,426,411  
6,525,178  
6,872,391  
6,908,987  
7,250,283  
7,091,006  
7,354,738  
8,105,774  
8,445,233

Reproducibility is key to advancing scientific discovery and accelerating scientists’ next breakthrough.  
Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.  
We are also planning to innovate the way in which we present recommended applications and...
species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been "predicted to work with," however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.

 Properties

<table>
<thead>
<tr>
<th>Form</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage instructions</td>
<td>Shipped at 4°C. Upon delivery aliquot and store at -80ºC. Avoid freeze / thaw cycles.</td>
</tr>
<tr>
<td>Storage buffer</td>
<td>Constituent: PBS</td>
</tr>
<tr>
<td>Purity</td>
<td>Immunogen affinity purified</td>
</tr>
<tr>
<td>Clonality</td>
<td>Polyclonal</td>
</tr>
<tr>
<td>Isotype</td>
<td>IgG</td>
</tr>
</tbody>
</table>

 Applications

Our Abpromise guarantee covers the use of ab54481 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td>★★★★☆☆☆☆☆</td>
<td>1/1000. Predicted molecular weight: 92 kDa. Use of nuclear extracts for WB is recommended since protein is nuclear and expression within whole cell lysate can be low.</td>
</tr>
</tbody>
</table>

 Target

Function

Transcriptional coactivator for steroid receptors and nuclear receptors. Greatly increases the transcriptional activity of PPARG and thyroid hormone receptor on the uncoupling protein promoter. Can regulate key mitochondrial genes that contribute to the program of adaptive thermogenesis. 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. Induces the expression of PERM1 in the skeletal muscle in an ESRRα-dependent manner. Also involved in the integration of the circadian rhythms and energy metabolism. Required for oscillatory expression of clock genes, such as ARNTL/BMAL1 and NR1D1, through the coactivation of RORA and RORC, and metabolic genes, such as PDK4 and
PEPCK.

**Tissue specificity**
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.

**Sequence similarities**
Contains 1 RRM (RNA recognition motif) domain.

**Post-translational modifications**
Phosphorylation by AMPK in skeletal muscle increases activation of its own promoter.
Phosphorylated by CLK2.
Heavily acetylated by GCN5 and biologically inactive under conditions of high nutrients.
Deacetylated by SIRT1 in low nutrients/high NAD conditions.
Ubiquitinated. Ubiquitination by RNF34 induces proteasomal degradation.

**Cellular localization**

**Images**

Western blot - Anti-PGC1 alpha antibody (ab54481) at 1/2000 dilution

*All lanes*: Anti-PGC1 alpha antibody (ab54481) at 1/2000 dilution

*Lane 1*: Mouse Brown Adipose Tissue at 10 µg

*Lane 2*: Mouse Brown Adipose Tissue at 20 µg

**Predicted band size**: 92 kDa

**Observed band size**: 105 kDa

*why is the actual band size different from the predicted?*

Western blot using ab54481 at 1:2000 to detect PGC1 alpha in Mouse brown adipose tissue whole cell extract (both lanes).

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

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