

## DESCRIPTION

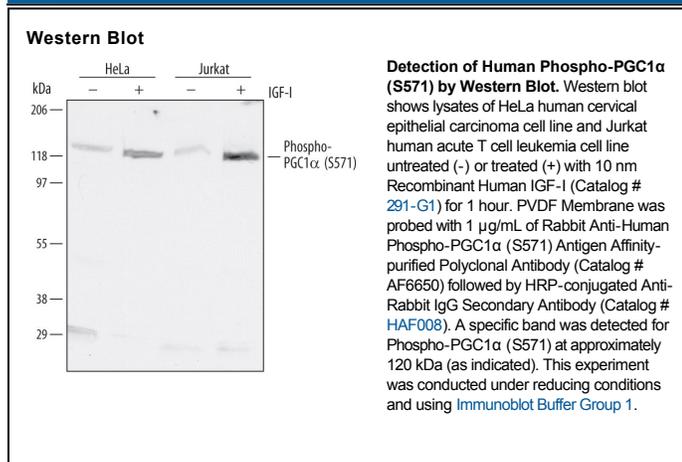
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human PGC1 $\alpha$ when phosphorylated at S571 in Western blots.
<b>Source</b>	Polyclonal Rabbit IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Phosphopeptide containing the human PGC1 $\alpha$ S571 site.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 $\mu$ g/mL	See Below

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.2 mg/mL.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

PGC-1 $\alpha$  (PPAR- $\gamma$  coactivator 1; also LEM6) is a 97-120 kDa member of the PGC-1 family of proteins. It is expressed in select cell types, including brown adipocytes, skeletal muscle and hepatocytes. PGC-1 $\alpha$  participates in both RNA processing and transcriptional coactivation in conjunction with multiple nuclear hormone receptors such as PPAR $\gamma$ , RAR and TR. Human PGC-1 $\alpha$  is 798 amino acids (aa) in length. It contains an LxxLL nuclear receptor binding motif (aa 144-148), one PPAR- $\gamma$  interaction domain (aa 293-339), two NLSs and an RNA binding/processing region (aa 566-710). PGC-1 $\alpha$  activity is regulated by phosphorylation. AMPK is known to phosphorylate Thr178 and Ser539, promoting cotranscriptional activity. Conversely, Akt-mediated phosphorylation at Ser571 is reported to downregulate PGC-1 $\alpha$  activity. This latter effect is achieved by an initial Ser571 phosphorylation, followed by GCN5 binding and subsequent PGC-1 $\alpha$  acetylation that promotes PGC-1 $\alpha$  dissociation from target gene promoters.