

DESCRIPTION

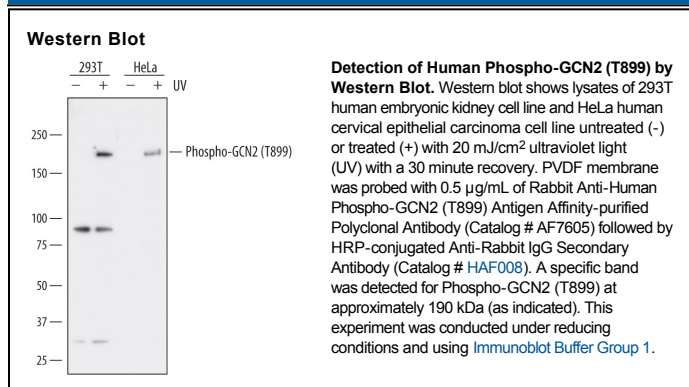
Species Reactivity	Human
Specificity	Detects human GCN2 when phosphorylated at T899 in Western blots.
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	Phosphopeptide containing human GCN2 T899 site
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm 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.

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	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
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

GCN2 (General Control Non-repressible 2-like protein; also eIF2α kinase 4) is a 190-200 kDa member of the GCN2 subfamily, Ser/Thr kinase family, protein kinase superfamily of proteins. It is widely expressed, being found in skeletal muscle cells, fibroblasts, hepatocytes and neurons. GCN2 is a key regulator of metabolism under nutrient deprivation. In particular, when essential amino acids (aa) are limiting, tRNAs exist that are unbound to amino acids. These "uncharged" tRNAs will bind to GCN2, activating the molecule. Through GCN2-mediated phosphorylation of eIF2α, promotes GCN4 synthesis, with subsequent activation of amino acid synthesizing enzymes, and a downregulation of lipid storage. Human GCN2 is 1649 aa in length. It possesses one RWD domain (aa 25-137), two protein kinase domains (aa 296-539 and 590-1001) and an extended His-RS-like region (aa 1021-1492). There are at least three utilized Ser/Thr phosphorylation sites. Two isoform variants exist. One shows a deletion of aa 774-801, while another contains a nine aa substitution for aa 608-1649. Over aa 22-139, human GCN2 shares 91% aa sequence identity with mouse GCN2.