

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
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

GCN2 (General Control Non-derepressible 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.

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