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#26168**PhosphoPlus® GCN2 (Thr899) Antibody Duet**
**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

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**For Research Use Only. Not for Use in Diagnostic Procedures.**
**UniProt ID:** #Q9P2K8  
**Entrez-Gene Id:** 440275

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-GCN2 (Thr899) (E1V9M) Rabbit mAb	94668	100 µl	220 kDa	Rabbit IgG
GCN2 (E7G7E) Rabbit mAb	65981	100 µl	220 kDa	Rabbit IgG

Please visit [cellsignal.com](http://cellsignal.com) for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.**Description**

PhosphoPlus® Duets from Cell Signaling Technology (CST) provide a means to assess protein activation status. Each Duet contains an activation-state and total protein antibody to your target of interest. These antibodies have been selected from CST's product offering based upon superior performance in specified applications.

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. *Do not aliquot the antibody.*

**Background**

Phosphorylation of the eukaryotic initiation factor 2 (eIF2) alpha subunit is a well-documented mechanism of downregulating protein synthesis under a variety of stress conditions. Kinases activated by viral infection (PKR), endoplasmic reticulum stress (PERK/PEK), amino acid deprivation (GCN2), and hemin deficiency (HRI) can phosphorylate the eIF2 alpha subunit (1,2). GCN2 is also required for UV light-induced translation inhibition, and *in vivo* phosphorylation of murine GCN2 at Thr898 is induced by both UV irradiation and by leucine deprivation (3). UV-induced activation of NF-κB also requires GCN2, which may act simply by preventing translation of IκB-alpha to replace pools that have been ubiquitinated and degraded (4). Interestingly, proteasome inhibitors (MG132 and ALLN) activate the GCN2/eIF2alpha pathway, suggesting a pivotal role for this kinase in stress response and ubiquitin-mediated signaling (5). *In vitro* autophosphorylation of yeast GCN2 within its activation loop at Thr882 and Thr887 (Thr898 and Thr903 in mouse) has also been reported (6).

**Background References**

1. Kaufman, R.J. (1999) *Genes Dev* 13, 1211-33.
2. Sheikh, M.S. and Fornace, A.J. (1999) *Oncogene* 18, 6121-8.
3. Deng, J. et al. (2002) *Curr Biol* 12, 1279-86.
4. Jiang, H.Y. and Wek, R.C. (2005) *Biochem J* 385, 371-80.
5. Jiang, H.Y. and Wek, R.C. (2005) *J Biol Chem* 280, 14189-202.
6. Garcia-Barrio, M. et al. (2002) *J Biol Chem* 277, 30675-83.

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