

Store at  
-20°C

# PhosphoPlus® PERK (Thr980) Antibody Duet

#12185



Cell Signaling  
TECHNOLOGY®

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**Entrez-Gene ID** #9451  
**UniProt ID** #Q9NZJ5

New 06/18

**For Research Use Only. Not For Use In Diagnostic Procedures.**

Products Included	Product #	Quantity	Mol. Wt.	Isotype
P-PERK (T980) (16F8) Rabbit mAb	3179	100 µl	170 kDa	Rabbit IgG
PERK (C33E10) Rabbit mAb	3192	100 µl	140 kDa	Rabbit IgG

See [www.cellsignal.com](http://www.cellsignal.com) for individual component applications, species cross-reactivity, dilutions and additional application protocols.

**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.

**Background:** Protein kinase-like endoplasmic reticulum kinase (PERK) is an eIF2 $\alpha$  kinase and transmembrane protein resident in the endoplasmic reticulum (ER) membrane that couples ER stress signals to translation inhibition (1-3). ER stress increases the activity of PERK, which then phosphorylates eIF2 $\alpha$  to promote reduced translation. Research studies have demonstrated that PERK-deficient mice have defects in pancreatic  $\beta$  cells several weeks after birth, suggesting a role for PERK-mediated translational control in protecting secretory cells from ER stress (4). PERK activation during ER stress correlates with autophosphorylation of its cytoplasmic kinase domain (1-3). Phosphorylation of PERK at Thr980 serves as a marker for its activation status.

**Specificity/Sensitivity:** PERK (C33E10) Rabbit mAb detects endogenous levels of total PERK protein. Phospho-PERK (Thr980) (16F8) Rabbit mAb detects endogenous levels of PERK phosphorylated at Thr980.

**Source/Purification:** Monoclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence of human PERK protein and a phosphopeptide corresponding to residues surrounding Thr980 of mouse PERK protein.

**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 References:

- (1) Harding, H. et al. (1999) *Nature* 397, 271-274.
- (2) Shi, Y. et al. (1998) *Mol. Cell. Biol.* 18, 7499-7509.
- (3) Harding, H. et al. (2000) *Mol. Cell* 5, 897-904.
- (4) Harding, H. et al. (2001) *Mol. Cell* 7, 1153-1163.

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**Applications:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.