#3179 Store at –20°C

Phospho-PERK (Thr980) (16F8) Rabbit mAb

☐ Small 100 µl (10 western blots)

☐ Large 300 µl (30 western blots)

Cell Signaling TECHNOLOGY®

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rev. 06/09/11

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

Entrez-Gene ID #13666
Swiss-Prot Acc. #Q9Z2B5

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W Endogenous	R, (M)	170 kDa	Rabbit IgG**

Background: PERK (protein kinase-like endoplasmic reticulum kinase) is an eIF2α 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 eIF2α to promote reduced translation. PERK-deficient mice have defects in pancreatic β 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: Phospho-PERK (Thr980) (16F8) Rabbit mAb detects endogenous levels of PERK phosphorylated at Thr980.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr980 of mouse PERK.

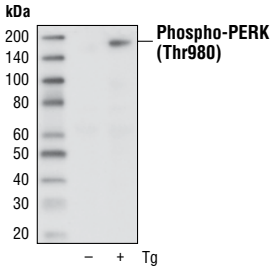
Background References:

(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.



Western blot analysis of extracts from AR42J cells untreated (-) or treated with 1 µM thapsigargin (Tg) for 20 minutes (+), using Phospho-PERK (Thr980) (16F8) Rabbit mAb.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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.*

***Species cross-reactivity is determined by western blot.**

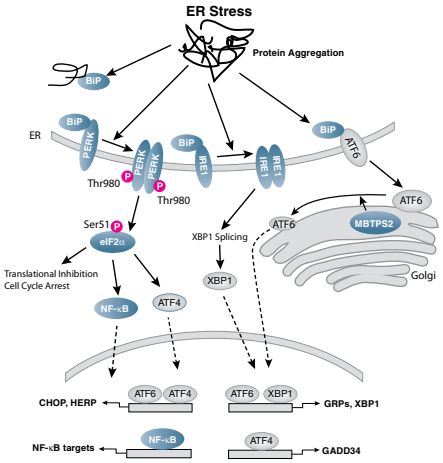
****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.



Rabbit monoclonal antibody is produced under license (granting certain rights including those under U. S. Patents No. 5,675,063 and 7,429,487) from Epitomics, Inc.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide

Species Cross-Reactivity Key: **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.

#3192 Store at -20°C

PERK (C33E10) Rabbit mAb

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☑ 100 µl
(10 western blots)

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rev. 03/15/10

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Entrez-Gene ID #9451
Swiss-Prot Acc. #Q9NZJ5

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W Endogenous	H, M, R, Mk	140 kDa	Rabbit IgG**

Background: PERK (protein kinase-like endoplasmic reticulum kinase) is an eIF2α 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 eIF2α to promote reduced translation. PERK-deficient mice have defects in pancreatic β 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.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the sequence of human PERK.

Background References:

(1) Harding, H. et al. (1999) *Nature* 397, 271–274.

(2) Shi, Y. et al. (1998) *Mol. Cell. Biol.* 18, 7499–7509.

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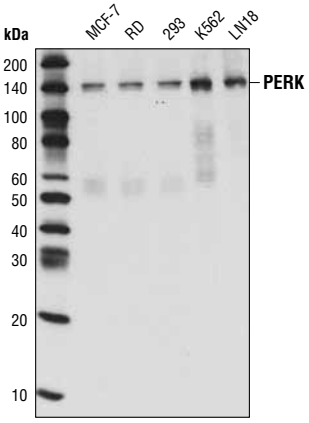

Western blot analysis of extracts from various cell types using PERK (C33E10) Rabbit mAb.

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

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****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000

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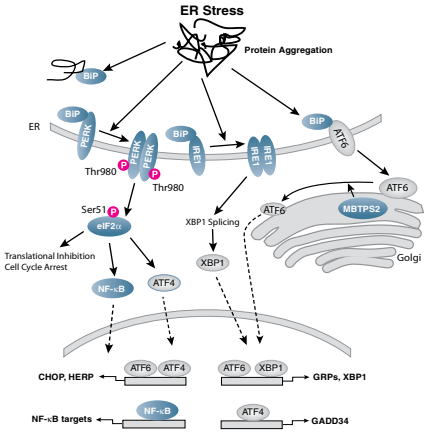

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