#9307 Store at –20°C

Phospho-Rb (Ser780) Antibody

Cell Signaling TECHNOLOGY®

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

Entrez-Gene ID #5925
UniProt ID #P06400

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, R, Mk	110 kDa	Rabbit**

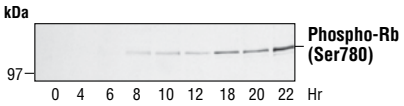
Background: The retinoblastoma tumor suppressor protein, Rb, regulates cell proliferation by controlling progression through the restriction point within the G1-phase of the cell cycle (1). Rb has three functionally distinct binding domains and interacts with critical regulatory proteins including the E2F family of transcription factors, c-Abl tyrosine kinase and proteins with a conserved LXCXE motif (2–4). Cell cycle-dependent phosphorylation by CDK's inhibits Rb target binding, thus allowing cell cycle progression (5). Rb inactivation and subsequent cell cycle progression likely requires first phosphorylation by cyclin D-CDK4/6 followed by cyclin E-CDK2 phosphorylation (6). Specificity of different CDK/cyclin complexes has been observed *in vitro* (6–8) and cyclin D1 is required for Ser780 phosphorylation *in vivo* (9).

Specificity/Sensitivity: Phospho-Rb (Ser780) Antibody detects endogenous levels of Rb only when phosphorylated at Ser780. The antibody does not cross-react with Rb phosphorylated at other sites.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser780 of human Rb. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

(1) Sherr, C.J. (1996) *Science* 274, 1672–1677.
(2) Nevins, J.R. et al. (1992) *Science* 258, 424–429.
(3) Welch, P.J. and Wang, J.Y. (1993) *Cell* 75, 779–790.
(4) Hu, Q.J. et al. (1990) *EMBO J.* 9, 1147–1155.
(5) Knudsen, E.S. and Wang, J.Y. (1997) *Mol. Cell. Biol.* 17, 5771–5783.
(6) Lundberg, A.S. and Weinberg, R.A. (1998) *Mol. Cell. Biol.* 18, 753–761.
(7) Connell-Crowley, L. et al. (1997) *Mol. Cell. Biol.* 8, 287–301.
(8) Kitagawa, M. et al. (1996) *EMBO J.* 15, 7060–7069.
(9) Geng, Y. et al. (2001) *Proc. Natl. Acad. Sci. USA* 98, 194–199.



Western blot analysis of extracts from human fibroblasts synchronized by serum deprivation, using Phospho-Rb (Ser780) Antibody. Cells were synchronized for 24 hours then released by addition of serum and harvested at the times indicated. Cell cycle progression was verified by cyclin analysis and FACS. (Provided by John Boylan, Dupont/Merck, Delaware.)

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.*

***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
Immunoprecipitation	1:100

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.

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.

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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.