Revision 1

Store at -20C

#13610

RBL2 (D9T7M) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, ChIP	H M R Mk	Endogenous	130	Rabbit IgG	#Q08999	5934

Product Usage Information

For optimal ChIP results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10^6 cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Chromatin IP	1:50

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.*

Specificity/Sensitivity

RBL2 (D9T7M) Rabbit mAb recognizes endogenous levels of total RBL2 protein. This antibody does not cross-react with the Rb or RBL1 proteins.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein corresponding to human RBL2 protein.

Background

The retinoblastoma (Rb) tumor suppressor family includes the retinoblastoma protein Rb (p105), retinoblastoma-like protein 1 (RBL1, p107), and retinoblastoma-like protein 2 (RBL2, p130). These Rb family proteins are referred to as 'pocket proteins' because they contain a conserved binding pocket region that interacts with critical regulatory proteins, including E2F family transcription factors, c-Abl tyrosine kinase, and proteins containing a conserved LXCXE motif (1,2). In quiescent G_0 phase cells, active Rb proteins are hypophosphorylated and bind to E2F transcription factors to repress transcription and inhibit cell cycle progression (1,2). Upon growth factor induction of quiescent cells, Rb proteins become hyperphosphorylated and inactivated by G1-phase cyclinD-cdk4/6, G1/S-phase cyclin E-cdk2, and G1/S-phase cyclin A-cdk2 complexes (1,2). Hyperphosphorylation of Rb proteins results in a loss of E2F binding and allows for transcriptional activation and cell cycle progression (1,2). In addition to regulating the cell cycle, Rb proteins regulate chromosome stability, induction, and maintenance of senescence, apoptosis, cellular differentiation, and angiogenesis (3).

Retinoblastoma-like protein 2 (RBL2, p130) is the most predominant and active Rb family member found in quiescent cells. In these cells, RBL2 interacts with E2F4 and E2F5 to recruit the DP, RB-like, E2F, and MuvB protein (DREAM) complex to E2F target genes to repress transcription of multiple genes required for progression into S phase and mitosis (4-6). Hypophosphorylation of RBL2 during cellular senescence is required for maintenance of senescent cells (7,8).

Background References

1. Du, W. and Pogoriler, J. (2006) *Oncogene* 25, 5190-200.
2. Giacinti, C. and Giordano, A. (2006) *Oncogene* 25, 5220-7.
3. Indovina, P. et al. (2013) *J Cell Physiol* 228, 525-35.
4. Moberg, K. et al. (1996) *Mol Cell Biol* 16, 1436-49.
5. Takahashi, Y. et al. (2000) *Genes Dev* 14, 804-16.
6. Smith, E.J. et al. (1996) *Mol Cell Biol* 16, 6965-76.
7. Kapić, A. et al. (2006) *Cell Death Differ* 13, 324-34.
8. Helmbold, H. et al. (2009) *Oncogene* 28, 3456-67.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **ChIP:** Chromatin IP

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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