Revision 4

#12556 Store at -20C

RUNX2 (D1L7F) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IF-IC, FC-FP, ChIP, ChIP-seq	H M R	Endogenous	55-62	Rabbit IgG	#Q13950	860

Product Usage Information

For optimal ChIP and ChIP-seq results, use 5 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	1:50
Immunofluorescence (Immunocytochemistry)	1:6400 - 1:12800
Flow Cytometry (Fixed/Permeabilized)	1:1600 - 1:6400
Chromatin IP	1:100
Chromatin IP-seq	1:100

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.

For a carrier free (BSA and azide free) version of this product see product #68007.

Specificity / Sensitivity

RUNX2 (D1I7F) Rabbit mAb recognizes endogenous levels of total RUNX2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala273 of human RUNX2 protein.

Background

Runt-related transcription factor 2 (RUNX2) is a member of the RUNX family of transcription factors. It is involved in osteoblast differentiation and skeletal morphogenesis. RUNX2 regulates the transcription of various genes, including osteopontin, bone sialoprotein, and osteocalcin, via binding to the core site of the enhancers or promoters (1-3). RUNX2 is crucial for the maturation of osteoblasts and both intramembranous and endochondral ossification. Mutations in the corresponding *RUNX2* gene have been associated with the bone development disorder cleidocranial dysplasia (CCD) (4-6). RUNX2 is also abnormally expressed in various human cancers, including prostate and breast cancer. It plays an important role in migration, invasion, and bone metastasis of prostate and breast cancer cells (7-10).

Background References

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2. Willis, D.M. et al. (2002) *J Biol Chem* 277, 37280-91.
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6. Han, M.S. et al. (2010) *J Cell Biochem* 110, 97-103.
7. Akech, J. et al. (2010) *Oncogene* 29, 811-21.
8. van der Deen, M. et al. (2010) *J Cell Biochem* 109, 828-37.
9. Barnes, G.L. et al. (2003) *Cancer Res* 63, 2631-7.
10. Barnes, G.L. et al. (2004) *Cancer Res* 64, 4506-13.

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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **ChIP:** Chromatin IP **ChIP-seq:** Chromatin IP-seq

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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 **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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Limited Uses