Revision 3

Store at -20C

#12255

Lamin B2 (D8P3U) 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:
W, IP, IF-IC	H Mk	Endogenous	68	Rabbit IgG	#Q03252	84823

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (Immunocytochemistry)	1:50 - 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.

Specificity/Sensitivity

Lamin B2 (D8P3U) Rabbit mAb recognizes endogenous levels of total lamin B2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys435 of human lamin B2 protein.

Background

Lamins are nuclear membrane structural components that are important in maintaining normal cell functions, such as cell cycle control, DNA replication, and chromatin organization (1-3). Lamins have been subdivided into types A and B. Type-A lamins consist of lamin A and C, which arise from alternative splicing of the lamin A gene *LMNA*. Lamin A and C are cleaved by caspases into large (41-50 kDa) and small (28 kDa) fragments, which can be used as markers for apoptosis (4,5). Type-B lamins consist of lamin B1 and B2, encoded by separate genes (6-8). Lamin B1 is also cleaved by caspases during apoptosis (9). Research studies have shown that duplication of the lamin B1 gene *LMNB1* is correlated with pathogenesis of the neurological disorder adult-onset leukodystrophy (10).
Research studies show that both lamin B2 and lamin B1 knockout mice exhibit neuronal developmental defects and that both proteins are essential for typical brain development. Lamin B1 and B2 deficiencies result in changes in nuclear morphology, with lamin B1 playing a role in regulating nuclear lamina integrity and lamin B2 inhibiting elongation of neuronal nuclei (11,12). Mutations in the corresponding lamin B2 gene (*LMNB2*) can result in a susceptibility to developing acquired partial lipodystrophy, a rare disorder characterized by the progressive loss of subcutaneous fat in a bilaterally symmetrical fashion (13).

Background References

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4. Rao, L. et al. (1996) *J Cell Biol* 135, 1441-55.
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6. Biamonti, G. et al. (1992) *Mol Cell Biol* 12, 3499-506.
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11. Coffinier, C. et al. (2010) *Proc Natl Acad Sci U S A* 107, 5076-81.
12. Coffinier, C. et al. (2011) *Mol Biol Cell* 22, 4683-93.
13. Hegele, R.A. et al. (2006) *Am J Hum Genet* 79, 383-9.

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

W: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **Mk:** Monkey

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