Revision 1

Store at -20C

#12159

LLGL1 (D2B5A) Rabbit mAb

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Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IF-IC	H Mk	Endogenous	130	Rabbit IgG	#Q15334	3996

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Immunocytochemistry)	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

LLGL1 (D2B5A) Rabbit mAb recognizes endogenous levels of total LLGL1 protein. This antibody does not cross-react with LLGL2.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu757 of human LLGL1 protein.

Background

In *Drosophila*, lethal giant larvae (*lgl*), discs large (*dlg*), and scribble (*scrib*) act as tumor suppressor genes. Their loss of function in flies causes neoplastic overgrowth of larval brain tissue and imaginal epithelial cells hallmarked by disruption of the cytoskeletal network and cellular polarity (1,2). The human homolog of the *Drosophila lgl* protein, lethal giant larvae protein homolog 1 (LLGL1), is a cytoskeletal protein implicated in regulating cellular organization, migration, and cell polarity (3). As in *Drosophila*, decreased expression of LLGL1 correlates with an increased incidence of cellular overgrowth and malignant transformation (4-6). In mammalian epithelial cells, LLGL1 redistributes from the cytoplasm to regions of cell-cell contact, allowing the establishment and maintainence of a polarized morphology (7). LLGL1 also plays a role in the formation of epithelial junctions via its direct interactions with PAR6 and aPKC, the latter of which has been shown to phosphorylate LLGL1 at Ser663, thus restricting its localization to the basolateral region of the cell (8). LLGL1 may also play an additional, unrealized role in cellular development and differentiation as indicated by the fact that *Drosophila lgl* has been implicated in controlling self-renewal and differentiation of progenitor cells (9). Recent studies in mice have suggested that a mammalian LLGL1 homolog that does not have tumor suppressor-like acitvity, LLGL2, is required for proper polarized invasion of trophoblasts and efficient branching morphogenesis during placental development (10).

Background References

1. Agrawal, N. et al. (1995) *Dev Biol* 172, 218-29.
2. Massimi, P. et al. (2008) *Exp Cell Res* 314, 3306-17.
3. Strand, D. et al. (1995) *Oncogene* 11, 291-301.
4. Schimanski, C.C. et al. (2005) *Oncogene* 24, 3100-9.
5. Kuphal, S. et al. (2006) *Oncogene* 25, 103-10.
6. Lu, X. et al. (2009) *Clin Cancer Res* 15, 3287-96.
7. Müsch, A. et al. (2002) *Mol Biol Cell* 13, 158-68.
8. Yamanaka, T. et al. (2003) *Curr Biol* 13, 734-43.
9. Mechler, B.M. et al. (1985) *EMBO J* 4, 1551-7.
10. Sripathy, S. et al. (2011) *Mol Cell Biol* 31, 2920-33.

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 **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **Mk:** Monkey

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