Revision 1

FLCN (D14G9) Rabbit mAb

#3697 Store at -20C

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	70	Rabbit IgG	#Q8NFG4	201163

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	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

FLCN (D14G9) Rabbit mAb detects endogenous levels of total FLCN protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant human FLCN protein.

Background

The protein folliculin (FLCN) is encoded by the BHD (Birt-Hogg-Dube) gene that is altered in BHD Syndrome, a disorder characterized by the presence of benign connective tissue tumors known as fibrofolliculomas, renal tumors and lung cysts (1). Clinical similarities between BHD and hamartoma-producing disorders caused by Tsc2, PTEN and LKB1 gene mutations indicate that FLCN might also be important in nutrient and energy sensing through the mTOR pathway (2). This model is supported by studies demonstrating a direct correlation between the down regulation of BHD and a reduction in mTOR associated phosphorylation of S6 ribosomal protein (3). Mutation of either the TSC1 or TSC2 gene results in elevated mTOR activity (4) while deletion of the Tsc2 and BHD homologs in yeast have opposing effects on both mTOR signaling and amino acid homeostasis (5). BHD knock-out mice develop cysts and renal cell tumors similar to those found in BHD patients along with low levels of phosphorylated S6 ribosomal protein (3). Based on these finding, it appears that either abnormally high or abnormally low levels of mTOR signaling might contribute to renal cell carcinogenesis.

Background References

1. Nickerson, M.L. et al. (2002) *Cancer Cell* 2, 157-64.
2. Baba, M. et al. (2006) *Proc Natl Acad Sci USA* 103, 15552-7.
3. Hartman, T.R. et al. (2009) *Oncogene* 28, 1594-604.
4. Kwiatkowski, D.J. (2003) *Cancer Biol Ther* 2, 471-6.
5. van Slegtenhorst, M. et al. (2007) *J Biol Chem* 282, 24583-90.

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

Cross-Reactivity Key

H: Human

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Limited Uses

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