

#37344 Store at -20°C

NPRL2 (D8K3X) Rabbit mAb


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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Mk	Endogenous	41	Rabbit IgG	#Q8WTW4	10641

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
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

NPRL2 (D8K3X) Rabbit mAb recognizes endogenous levels of total NPRL2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala211 of human NPRL2 protein.

Background

The mTORC1 kinase complex plays a critical role in cell growth regulation (1, 2). mTORC1 activity is modulated by cellular and environmental factors (e.g., energy levels, growth factors, and amino acids) (3, 4). Amino acid sensing is mediated through several protein complexes, including GATOR (GAP Activity TOward Rags). GATOR is composed of two protein subcomplexes (GATOR1 and GATOR2) that function in opposing fashion to regulate mTORC1 activity. NPRL2 was identified as a component of the GATOR1 subcomplex (also containing DEPDC5 and NPRL3) that functions to negatively regulate mTORC1 activity through activation of RagA and RagB GTPases (5). Conversely, the GATOR2 subcomplex (containing Mios, WDR24, WDR59, Seh1L, and Sec13) positively regulates mTORC1 activity (5). In addition, NPRL2, also known as TUSC4 (tumor suppressor candidate 4), has been shown to prevent the degradation of tumor suppressor BRCA1. Overexpression of TUSC4 (NPRL2) protein inhibits proliferation of breast cancer cells (6).

Background References

1. Sancak, Y. et al. (2008) *Science* 320, 1496-501.
2. Kim, E. et al. (2008) *Nat Cell Biol* 10, 935-45.
3. Hay, N. and Sonenberg, N. (2004) *Genes Dev* 18, 1926-45.
4. Wullschlegel, S. et al. (2006) *Cell* 124, 471-84.
5. Bar-Peled, L. et al. (2013) *Science* 340, 1100-6.
6. Peng, Y. et al. (2015) *Cancer Res* 75, 378-86.

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

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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