Revision 1

#2520 Store at -20C

SUFU (C54G2) 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	H M R Mk	Endogenous	54	Rabbit IgG	#Q9UMX1	51684

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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

SUFU (C54G2) Rabbit mAb detects endogenous level of total SUFU protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu458 of human SUFU.

Background

SUFU (Suppressor of Fused) was identified in *Drosophila* as a suppressor of the Fused (Fu) kinase that is essential for Hedgehog signaling during embryonic pattern formation (1). SUFU suppresses Hedgehog signaling by regulating the localization of the transcription factors Gli and Ci (2,3). In *Drosophila*, SUFU may also positively regulate Hedgehog signaling depending on SUFU protein levels and Hedgehog signal intensity (4). SUFU may function as a tumor suppressor as inactivation and loss of heterozygosity of SUFU is associated with human rhabdomyosarcomas and medulloblastomas (5,6). Deletion of SUFU in mice results in embryonic lethality, while heterozygotes exhibit developmental defects characteristic of basal cell nevus syndrome. This aberrant developmental pathway is attributed to ligand-independent activation of Hedgehog signaling (7). GSK-3β binds and phosphorylates SUFU *in vitro* and additional information predicts that GSK-3β may positively regulate Hedgehog signaling through modification of SUFU (8).

Background References

1. Pham, A. et al. (1995) *Genetics* 140, 587-598.
2. Barnfield, P.C. et al. (2005) *Differentiation* 73, 397-405.
3. Méthot, N. and Basler, K. (2000) *Development* 127, 4001-4010.
4. Dussillol-Godar, F. et al. (2006) *Dev. Biol.* 291, 53-66.
5. Tostar, U. et al. (2006) *J. Pathol.* 208, 17-25.
6. Taylor, M.D. et al. (2002) *Nat. Genet.* 31, 306-310.
7. Svärd, J. et al. (2006) *Dev. Cell.* 10, 187-197.
8. Takenaka, K. et al. (2007) *Biochem. Biophys. Res. Commun.* 353, 501-508.

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

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

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