Revision 3

Store at -20C

#3446

Notch3 (8G5) Rat mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	90, 270	Rat IgG2a	#Q9UM47	4854

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

Notch3 (8G5) Rat mAb detects endogenous levels of total notch3 protein. It recognizes the full-length (270 kDa) and the extracellular truncated fragment containing a short extracellular region, the transmembrane domain and the intracellular region (90 kDa).

Source / Purification

Monoclonal antibody is produced by immunizing animals with a fusion protein corresponding to intracellular residues of notch3.

Background

Notch proteins (Notch1-4) are a family of transmembrane receptors that play important roles in development and the determination of cell fate (1). Mature Notch receptors are processed and assembled as heterodimeric proteins, with each dimer composed of a large extracellular ligand-binding domain, a single-pass transmembrane domain, and a smaller cytoplasmic subunit (Notch intracellular domain, NICD) (2). Binding of Notch receptors to ligands of the Delta-Serrate-Lag2 (DSL) family triggers heterodimer dissociation, exposing the receptors to proteolytic cleavages; these result in release of the NICD, which translocates to the nucleus and activates transcription of downstream target genes (3,4).

Notch3 is a member of notch family that is processed in a similar way to notch1 (5). It is expressed primarily in arterial smooth muscle cells (SMC). Mutations altering the number of cysteine residues in the notch3 extracellular region are associated with cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL), a hereditary angiopathy leading to strokes and dementia in adults (6-8). Recent studies indicate that notch3 is overexpressed in many types of cancers (9-11).

Background References

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3. Schroeter, E.H. et al. (1998) *Nature* 393, 382-6.
4. Rand, M.D. et al. (2000) *Mol Cell Biol* 20, 1825-35.
5. Baron, M. (2003) *Semin Cell Dev Biol* 14, 113-9.
6. Kalimo, H. et al. (2002) *Brain Pathol* 12, 371-84.
7. Karlström, H. et al. (2002) *Proc Natl Acad Sci USA* 99, 17119-24.
8. Monet, M. et al. (2007) *Hum Mol Genet* 16, 982-92.
9. Park, J.T. et al. (2006) *Cancer Res* 66, 6312-8.
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11. Yamaguchi, N. et al. (2008) *Cancer Res* 68, 1881-8.

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

Cross-Reactivity Key

H: Human

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