

Product Information

Anti-Notch3 antibody, Rat monoclonal

clone NIZ 8G5, purified from hybridoma cell culture

Product Number **SAB4200125**

Product Description

Anti-Notch3 (rat IgG2a isotype) is derived from the hybridoma NIZ 8G5 produced by the fusion of mouse myeloma cells (P3X63Ag8.653) and splenocytes from rat immunized with human recombinant full length Notch3 (GeneID: 4854). The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Anti- Notch3 recognizes human and rat Notch3. The product may be used in several immunochemical techniques including immunoblotting (full length ~ 270 kDa; extracellular truncated fragment containing a short extracellular region, the transmembrane domain and the intracellular region ~90 kDa). A band at ~160kDa may also appear.

Members of the Notch gene family encode transmembrane receptors that are critical for various cell fate decisions.¹⁻² Whereas *Drosophila melanogaster* has one Notch receptor, mammals have four Notch receptors, Notch1 through Notch4. Notch1 and Notch2 have the highest homology with each other, whereas Notch3 and Notch4 are structurally divergent, lacking the transactivation domain that is found in Notch1 and Notch2.³

Notch signaling plays a key role in the normal development of many tissues and cell types, through diverse effects on differentiation, survival, and/or proliferation that are highly dependent on signal strength and cellular context.² The importance of Notch signaling in the adult vascular system is demonstrated by the fact that mutations in *Notch3* gene cause a vascular degenerative disease known as cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL). This syndrome is characterized by a predisposition to stroke caused by diffuse angiopathy. The vascular damage, prevalently affecting small cerebral arteries, is situated in the vascular smooth muscle cells (VSMC), which are the only site of expression of the Notch3 gene in human adults.² In addition, Notch3 over expression characterizes active and relapsing human T-cell acute lymphoblastic leukemia (T-ALL).⁴

Reagent

Supplied as a solution in 0.01M phosphate buffered saline pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working dilution of 2-4 µg/mL is recommended using Jurkat cell extracts.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Artavanis-Tsakonas, S., et al., *Science*, **284**, 770-776 (1999).
2. Bianchi, S., et al., *J. Cell. Physiol.*, **207**, 300-308 (2006).
3. Radtke, F., et al., *Nat. Immunol.*, **5**, 247-253 (2004).
4. Bellavia, D., et al., *Oncogene*, **27**, 5092-5098 (2008).

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