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Product Information

Anti-Notch1 antibody, Mouse monoclonal
clone mN1A, purified from hybridoma cell culture

Catalog Number **N6786**

Product Description

Monoclonal Anti-Notch1 (mouse IgG1 isotype) is derived from the mN1A hybridoma produced by the fusion of mouse myeloma cells (SP2/0) and splenocytes from mice immunized with a recombinant protein containing the cdc10-NCR region of mouse Notch1.[1] The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Catalog Number ISO2).

Monoclonal Anti-Notch1 recognizes human and mouse Notch1 (approximately 300 kDa and 120 kDa once Notch1 is cleaved). The antibody does not recognize Notch 2, 3, nor 4. The antibody has high affinity for the activated intracellular form of Notch.[1-2] Monoclonal Anti-Notch1 can be used in ELISA, immunoblotting, and immunocytochemistry.[1-2]

The Notch protein family is a group of highly conserved proteins important in the determination of cell fate and maintenance of progenitors in many developmental systems. This family of proteins functions both as membrane cell receptors and as transcription factors. Activation of Notch by cell-cell interactions causes a transcription inhibitory effect that enables inhibition of differentiation in some cells but not in others. As a consequence, some cells adopt a particular fate while other progenitors remain uncommitted. The Notch protein is important in cell fate during myogenesis, oogenesis, neurogenesis, and wing and eye development in *Drosophila*.

In mammals, four Notch genes were identified (Notch1-4) that are expressed in a wide variety of cells and play a crucial role in differentiation and development.[1-3] Notch proteins contain three main domains: an extracellular domain containing tandem epidermal growth factor repeats, and three lin-12/Notch repeats, a transmembrane domain, and an intracellular domain that contains six cdc1-/SW16/ankyrin repeats, nuclear localization signals, and a C-terminal OPA/PEST region.

The release of the intracellular part of Notch is mediated by a presenilin 1 proteolytic event. This event occurs only when Notch binds to its ligand. Null mice for presenilin 1 or mutated at the presenilin 1 cleavage site in Notch1, gave similar phenotypes showing that this cleavage is required for viability and proper formation of the yolk-sac vasculature in the mouse embryo.[1-4]

Monoclonal antibodies specific for Notch1 are important for studying cell development and cell fate in mammals.

Reagent

Monoclonal Anti-Notch1 is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~2 mg/ml.

Precautions and Disclaimer

This product is 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

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

Product Profile

Immunoblotting: a working concentration of 1-2 μg/ml is recommended using extracts of cells stably transfected with a truncated Notch1 (32D-mN1-ICDOP that expresses the intracellular mouse Notch1 molecule-65 kDa).

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

References

1. Milner, L.A. et al., Proc. Natl. Acad. Sci. USA, **93**, 13014-13019 (1996).
2. Huppert, S.S. et al., Nature, **405**, 966-970 (2000).
3. Milner, L.A. et al., Blood, **93**, 243-248 (1999).
4. Ray, W.J. et al., Proc. Natl. Acad. Sci. USA, **96**, 3263-3268 (1999)

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