Product Information

Anti-ADAR1 Antibody, Mouse Monoclonal

Clone ADAR64, Purified from Hybridoma Cell Culture

SAB4200482

Product Description

Anti-ADAR1 (mouse IgG3 isotype) is derived from the hybridoma ADAR61 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a peptide corresponding to a sequence at the C-terminus of human ADAR1 (GeneID: 103), conjugated to KLH. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO2). The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Anti-ADAR1 recognizes human, monkey and rat ADAR1. The product may be used in several immunochemical techniques including immunoblotting (80-130 kDa), immunoprecipitation and flow cytometry. Staining of the ADAR1 band in immunoblotting is specifically inhibited by the immunizing protein.

RNA editing by hydrolytic deamination of adenosine (A) to inosine (I) in double-stranded (ds) RNA is the most common type of editing in higher eukaryotes. This RNA editing event is catalyzed by the ADAR (adenosine deaminase that acts in RNA) enzyme.[1] Two ADAR enzymes have been shown to possess enzymatic activity in mammals, ADAR1 and ADAR2. Both can convert specific adenosine to inosine in pre-mRNA and can also convert up to 40-50% of the adenosines in long synthetic duplex RNAs.[2] ADAR1 and ADAR2 are expressed in most tissues but in general, the pre- mRNA being edited represents receptors of the central nervous systems.[3] ADAR1 has several isoforms which include the full length ADAR1 (150 kDa) and two functionally active short isoforms (80 and 110 kDa).[4] It plays critical roles in differentiating cells of embryo and adult tissues, supporting cell survival and permitting their further differentiation and maturation.[5] Its role in embryonic development is especially demonstrated within the hematopoietic lineage as well as in adult hematopoietic progenitor cells (HPCs).[6]

ADAR1 is also an essential regulator of hematopoietic stem cell maintenance and suppressor of interferon signaling that may protect organisms from the deleterious effects of interferon activation associated with many pathological processes, including chronic inflammation, autoimmune disorders and cancer.[7]

Reagent

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

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

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 concentration of 2.0-4.0 µg/mL is recommended using U2OS total 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. Nishikura, K., *Nat. Rev. Mol. Cell Biol.,* **7**: 919-931 (2006).
2. Keegan, L.P., et al., *Nat. Rev. Genet.,* **2**: 869-878 (2001).
3. Morabito, M.V., and Emeson, R.B., *Neuropsychopharm.,* **34**: 246 (2009).
4. Yang, J.H., et al., *J. Biol. Chem.*, **278:** 45833-45842 (2003).
5. Wang, Q., *Biochemistry (Mosc).*, **76:** 900-911 (2011).
6. XuFeng, R., et al., *Proc. Natl. Acad. Sci. USA*, **106**: 17763-17768 (2009).
7. Hartner, J.C., et al., *Nat. Immunol.*, **10**: 109-115 (2009).

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