Revision 1

Store at -20C

#12317

ADAR1 Antibody

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H Mk	Endogenous	110, 150	Rabbit	#P55265	103

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 and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

ADAR1 Antibody recognizes endogenous levels of total ADAR1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala425 of human ADAR1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Post-transcriptional processing of RNAs, such as RNA editing, is an important mechanism by which diversity in RNA and protein is achieved that is not otherwise encoded by the genome (1,2). The most common form of RNA editing is the conversion of adenosine (A) into inosine (I) on double-stranded RNA by the adenosine deaminase acting on RNA (ADAR) family of proteins (1-3). Since inosine base pairs with cytidine, it is interpreted as a guanosine by the splicing and translational machinery, leading to alteration in the protein sequence, as well as generation of splicing isoforms (1,4-6). A-to-I editing can also influence RNA sequence recognition by RNA-binding proteins and non-coding RNA, such as miRNAs, affecting subsequent RNA processing, stability, and protein expression levels (2).

ADAR1 is ubiquitously expressed with two known isoforms, ADAR1L (p150) and ADAR1S (p110), resulting from transcription using alternative promoters and start codons. ADAR1S is constitutively expressed in the nucleus, while ADAR1L is interferon-inducible and present in both the nucleus and the cytoplasm. The induction of ADAR1L in response to cellular stress and viral infection suggests a role for RNA editing in the innate immune response (1,7). In addition, ADAR1 is essential in mammalian development, particularly in hematopoiesis and suppression of interferon signaling to protect hematopoietic stem cells from destruction in fetal liver and adult bone marrow (8,9).

Background References

1. Zinshteyn, B. and Nishikura, K. (2009) *Wiley Interdiscip Rev Syst Biol Med* 1, 202-9.
2. Nishikura, K. (2006) *Nat Rev Mol Cell Biol* 7, 919-31.
3. Bass, B.L. (2002) *Annu Rev Biochem* 71, 817-46.
4. Reenan, R.A. (2001) *Trends Genet* 17, 53-6.
5. Maas, S. et al. (2006) *RNA Biol* 3, 1-9.
6. Rueter, S.M. et al. (1999) *Nature* 399, 75-80.
7. Patterson, J.B. and Samuel, C.E. (1995) *Mol Cell Biol* 15, 5376-88.
8. Iizasa, H. and Nishikura, K. (2009) *Nat Immunol* 10, 16-8.
9. Hartner, J.C. et al. (2009) *Nat Immunol* 10, 109-15.

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 **Mk:** Monkey

Trademarks and Patents

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.