Qty: 40 µg Antibody
100 µg Inhibitor Peptide

Rabbit x ADAR1+ Peptide

Catalog No. 52-3997

Lot No. See product label

PolyFast™

Rabbit anti-ADAR1 and Inhibitor Peptide

ABOUT *POLYFAST*™

Invitrogen Laboratories produces PolyFast™ antibodies to rapidly provide the research community with "investigative grade" antibodies to timely, novel proteins with limited or no commercial availability at the time of their release. To ensure rapid availability, PolyFast™ antibodies are characterized only for their ability to bind specifically to their peptide immunogen. In contrast to Invitrogen's "standard grade" antibodies, Invitrogen Laboratories, Inc. makes no additional claims regarding the performance of PolyFast™ antibodies in any application. Information on the performance of PolyFast™ antibodies in other applications will be posted on the Invitrogen web site (www.invitrogen.com) as it becomes available.

FORM

Antibody

PolyFast™ antibody is supplied as a 200 µl aliquot at 0.2 mg/ml in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. The antibody is affinity-purified from rabbit antiserum by epitope-affinity chromatography.

Peptide

PolyFast™ inhibitor peptide is supplied as a 200 µl aliquot at 0.5 mg /ml in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide.

POLYCLONAL ANTIBODY DESIGNATION (PAD): ZJA.08

IMMUNOGEN

A synthetic peptide derived from the C-terminus of human ADAR1 protein.

PREDICTED MOLECULAR WEIGHT: ~ 120 kDa

SPECIFICITY

PolyFast™ antibody reacts specifically with the immunizing peptide as determined by direct binding (by ELISA) to peptide conjugated to an irrelevant carrier protein.

REACTIVITY

This antibody is reactive with human.

USAGE

Antibody

The utility of this antibody for applications other than direct ELISA has not been determined.

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. Typical starting amounts of antibody for common applications are given below.

ELISA: 0.1-1.0 µg/ml

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Peptide

The included peptide is intended for use as an inhibitor of antibody binding to help distinguish between specific and non-specific binding of this *PolyFast* antibody. Typically, inhibitor and primary antibody are mixed in a blocking buffer (e.g., PBS pH7.4 containing 3-5% non-fat dry milk or 0.1% BSA, and 0.1-.02% Tween 20) and pre-incubated for 5-10 minutes prior to use.

Antibody Binding Inhibition: ~25x µg/ml per µg/ml antibody

STORAGE

Antibody and Peptide

Store at 2-8°C for up to one month. Store at –20°C for long term storage. Avoid repeated freezing and thawing.

BACKGROUND

The mammalian **A**denosine **D**eaminases **A**cting on **R**NA (ADAR) constitute a family of sequence-related proteins involved in pre-mRNA editing of nuclear transcripts through site-specific adenosine modification. ADARs are not active on adenosine-mononucleotide and are only distantly related by sequence to adenosine and AMP deaminases involved in purine metabolism. The ADARs convert certain adenosine bases in an RNA transcript into inosines by removing an amino group involved in Watson-Crick base pairing. The ADARs recognize a double stranded RNA (dsRNA) structure in the transcript that is formed between the editing site complementary sequence (ECS) - usually located in the downstream 3' intron of the transcript – and the sequence to be edited. The ADAR family of proteins consists of ADAR1 and ADAR2 which are expressed in many tissues and ADAR3 which is expressed in the brain. Regulated levels of ADAR1 expression are critical for embryonic erythropoiesis in the liver. Results show a requirement of regulated increase in the ADAR1 expression in liver at E12 and E13 stages. Failure to increase ADAR1 expression may result in underediting of the RNA of currently unknown target genes, which in turn affects proliferation and/or differentiation of erythrocytes. The absence of mature erythrocytes would lead to tissue hypoxia and the eventual death of the embryo. The best characterized target transcripts that undergo RNA editing by ADARs encode glutamate-sensitive ion channels that are expressed by neurons of the central nervous system.

REFERENCES

1. Maas S et al; *PNAS* 96:8895-8900, (1999)
2. Wang Q et al; *Science* 290: 1765-1768, (2000)
3. Liam P et al; *Science* 290 :1707-1709, (2000)

RELATED PRODUCTS

Product	***Clone/PAD***	***Catalog No.***
Rabbit anti-ADAR2	ZKH.62	52-4007
Rabbit anti-PHAS-1	AR0-17	51-2900
Mouse anti-SRp20	7B4(7B4A12)	33-4200
Mouse anti-SR	1H4(1H4G7)	33-9400
Mouse anti-SR	16H3(16H3E8)	33-9300

PAD: polyclonal antibody designation

Immunoassay reagents	***Conjugate***	***Catalog No***
Goat anti-Rabbit IgG (H+L) (ZyMAX™ Grade)	Purified	81-6100
	FITC	81-6111
	TRITC	81-6114
	Cy™3	81-6115
	Cy™5	81-6116
	HRP	81-6120
	AP	81-6122
	Biotin	81-6140
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

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