

Recombinant Mouse DSRAD Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51858

Size: 10ug, 100ug

Protein Name: Double-stranded RNA-specific adenosine deaminase (DRADA) (EC 3.5.4.37)
(RNA adenosine deaminase 1)

Synonym: Adar

UniProt ID: Q99MU3

UniProt Link: www.uniprot.org/uniprotkb/Q99MU3/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1178 AA

Molecular Weight: 130 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MSQGFRGPTGVFPHQTQSYLDPSHEHSKWRYQPQGPESYPRSFQLQQIEFLKGRLEAPLIGIQT
QSLPPFLPGHWPRFPGPPAQDRQLEIWEFPRSVTLRNQGFHIGPPLPPPHSRGTPWRGADGLCSH
FRELISQSPEQKVLNRLEELGEGKATTAHVLAELRIPKRDINRILYSLEKKGKLHRGRGKPPLWSL
VPLSQAWTQPPGVNPDSCIQEFPRGEPGLDSEDGDPASDLEGPSEPLDMAEIKEKICDYLFNVSN
SSALNLAKNIGLTKARDVTSVLIDLERQGDVYRQGATPPIWYLTDDKKRERLQMKRSTHSAPAPTPTA
VPEATRSPSPFACHPPPAGASSSVAASKRVENGQEPKIHESRHEARPGPMRLRPHAYHNGPSRA
GYVASENGQWATDDIPDNLNSIHTAPGEFRAIMEMPSFYSPTLPRCSPYKKLTECQLKNPVSGLLEY
AQFTSQTCDFNLIEQSGPSHEPRFKFQVINGREFPPAEAGSKKQDAAVKAMAILLREAKAKDS
GQPEDLSHCPMEEDSEKPAEAQAPSSSATSLSFGKSPVTTLLECMHKLGNCSCEFRLLSKEGPAHDP
KFQYCVAVGAQTFFPVSAKSKKQMAAEEAMKALQEEAASSADDQSGGANTDSLDESMAPNKI
RRIGELVRYLNTNPVGGLLEYARSHGFAAEFKLIDQSGPPHEPKFVYQAKVGGRWFPAVCAHSSKKQ
GKQDAADAALRVLIGESEKAEQLGFAEVTPVTGASLRRTMLLLSRSPDAHPKTLPLSGSTFHDQIAM
LSHRCFNALTNSFQPSLLGRKILAAIMKRPEDMGVVVSLGTGNRCVKGDSLKGETVNDCHAEII
SRRGFIRFLYSELMKYNHHTAKNSIFELARGGEKLQIKKTVSFHLYISTAPCGDGALFDKSCSDRAVE
STESRHYPVFENPKQGKLRTKVENGEGTIPVESSDIVPTWDGIRLGERLRTMSCSDKILRWNVGLGQ
GALLTHFLQPVYLKSVTLGYLFSQGHLLTRAICCRVTRDGKAFEDGLRYPFIVNHPKVGRVSVYDSKR
QSGKTKETSVNWCMAADGYDLEILDGTRGTVDGPGKELSRVSKKNIFLQFKKLCSFRARRDLLQLSY
GEAKKAARDYDLAKNYFKKSLRDMGYGNWISKPQEEKNFYLCVPND

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Double-stranded RNA-specific adenosine deaminase (DRADA) (EC 3.5.4.37) (RNA adenosine deaminase 1) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Catalyzes the hydrolytic deamination of adenosine to inosine in double-stranded RNA (dsRNA) referred to as A-to-I RNA editing. This may affect gene expression and function in a number of ways that include mRNA translation by changing codons and hence the amino acid sequence of proteins since the translational machinery read the inosine as a guanosine; pre-mRNA splicing by altering splice site recognition sequences; RNA stability by changing sequences involved in nuclease recognition; genetic stability in the case of RNA virus genomes by changing sequences during viral RNA replication; and RNA structure-dependent activities such as microRNA production or targeting or protein-RNA interactions. Can edit both viral and cellular RNAs and can edit RNAs at multiple sites (hyper-editing) or at specific sites (site-specific editing). Its cellular RNA substrates include: bladder cancer-associated protein (BLCAP), neurotransmitter receptors for glutamate (GRIA2) and serotonin (HTR2C) and GABA receptor (GABRA3). Site-specific RNA editing of transcripts encoding these proteins results in amino acid substitutions which consequently alters their functional activities. Exhibits low-level editing at the GRIA2 Q/R site, but edits efficiently at the R/G site and HOTSPOT1. Does not affect polyomavirus replication but provides protection against virus-induced cytopathic effects. Essential for embryonic development and cell survival and plays a critical role in the maintenance of hematopoietic stem cells.

Subcellular Localization: [Isoform 1]: Cytoplasm. Nucleus, nucleolus. Note=Long forms starting at Met-1 are found predominantly in cytoplasm. Shuttles between the cytoplasm and nucleus.; [Isoform 2]: Cytoplasm. Nucleus, nucleolus. Note=Long forms starting at Met-1 are found predominantly in cytoplasm.; [Isoform 3]: Nucleus, nucleolus. Note=Short forms starting at Met-519 are found exclusively in the nucleolus.; [Isoform 4]: Nucleus, nucleolus. Note=Short forms starting at Met-519 are found exclusively in the nucleolus.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.