

Recombinant Human RSAD2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50858

Size: 10ug, 100ug

Protein Name: S-adenosylmethionine-dependent nucleotide dehydratase RSAD2 (SAND) (EC 4.2.-.-) (Cytomegalovirus-induced gene 5 protein) (Radical S-adenosyl methionine domain-containing protein 2) (Virus inhibitory protein, endoplasmic reticulum-associated, interferon-inducible) (Viperin)

Synonym: RSAD2, CIG5

UniProt ID: Q8WXG1

UniProt Link: www.uniprot.org/uniprotkb/Q8WXG1/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 361 AA

Molecular Weight: 42 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MWVLTPAAFAGKLLSVFRQPLSSLWRSVLPLFCWLRATFWLLATKRRKQQLVLRGPDETKEEEEDP
PLPTTPTSVNYHFTRQCNYKCGFCFHTAKTSFVLPLEEAKRGLLLLKEAGMEKINFSGGEPFLQDRG
EYLGKLVRFCKVELRLPSVSIVSNGSLIRERWFQNYGEYLDILAISCDSDDEEVNVLIGRGQGKKNHV
ENLQKLRRWCRDYRVAFKINSVINRFNVEEDMTEQIKALNPVRWKVFQCLLIEGENCGEDALREAER
FVIGDEEFERFLERHKEVSCLVPESNQKMKDSYLILDEYMRFLNCRKGRKDPSKSILDVGVEEAIKFS
GFDEKMFLKRGGKYIWSKADLKLDW

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 S-adenosylmethionine-dependent nucleotide dehydratase RSAD2 (SAND) (EC 4.2.-.-) (Cytomegalovirus-induced gene 5 protein) (Radical S-adenosyl methionine domain-containing protein 2) (Virus inhibitory protein, endoplasmic reticulum-associated, interferon-inducible) (Viperin) 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: Interferon-inducible antiviral protein which plays a major role in the cell antiviral state induced by type I and type II interferon (PubMed:31812350). Catalyzes the conversion of cytidine triphosphate (CTP) to 3'-deoxy-3',4'-didehydro-CTP (ddhCTP) via a SAM-dependent radical mechanism (PubMed:29925952, PubMed:30872404). In turn, ddhCTP acts as a chain terminator for the RNA-dependent RNA polymerases from multiple viruses and directly inhibits viral replication (PubMed:29925952). Therefore, inhibits a wide range of DNA and RNA viruses, including human cytomegalovirus (HCMV), hepatitis C virus (HCV), west Nile virus (WNV), dengue virus, sindbis virus, influenza A virus, sendai virus, vesicular stomatitis virus (VSV), zika virus, and human immunodeficiency virus (HIV-1) (PubMed:29925952, PubMed:30587778, PubMed:30934824, PubMed:31921110). Also promotes TLR7 and TLR9-dependent production of IFN-beta production in plasmacytoid dendritic cells (pDCs) by facilitating 'Lys-63'-linked ubiquitination of IRAK1 by TRAF6 (PubMed:30872404). Plays a role in CD4+ T-cells activation and differentiation. Facilitates T-cell receptor (TCR)-mediated GATA3 activation and optimal T-helper 2 (Th2) cytokine production by modulating NFkB1 and JUNB activities. Can inhibit secretion of soluble proteins.

Subcellular Localization: Endoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side. Golgi apparatus . Endoplasmic reticulum . Lipid droplet . Mitochondrion. Mitochondrion inner membrane. Mitochondrion outer membrane. Note=Infection with human cytomegalovirus (HCMV) causes relocation to the Golgi apparatus and to cytoplasmic vacuoles which also contain HCMV proteins glycoprotein B and pp28. Interaction with human cytomegalovirus/HHV-5 protein vMIA/UL37 results in its relocation from the endoplasmic reticulum to the mitochondria.

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.