Recombinant RIGI protein (His tag)

Catalog Number	546613
Synonyms	ATP-dependent RNA helicase DDX58; DEAD box protein 58; RIG-I-like receptor 1; RLR-1; RNA sensor RIG-I; Retinoic acid-inducible gene 1 protein; RIG-1; Retinoic acid-inducible gene I protein; RIG-I
Species	Human
Expression System	E. coli
Accession	O95786
Molecular Weight	Predictes a molecular mass of 23.72 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 27 kDa band.

Product Information

Sequence Region	1-186
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-186 aa (O95786) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human RIG-I CARD Domains (1-186) - A high-purity protein fragment containing both CARD1 and CARD2 domains of the essential antiviral innate immune receptor RIG-I. This fragment serves as an invaluable tool for studying the initial signaling mechanisms of viral RNA detection and interferon pathway activation. RIG-I (Retinoic acid-inducible gene 1 protein) is a crucial cytoplasmic innate immune receptor that detects viral RNA pathogens and initiates antiviral defense mechanisms. The full-length protein functions as an ATP-dependent RNA helicase that senses cytoplasmic viral nucleic acids, forming ribonucleoprotein complexes with viral RNAs and homooligomerizing to activate downstream signaling cascades. This activation leads to the production of type I interferons and pro-inflammatory cytokines through recruitment of mitochondrial antiviral signaling protein (MAVS/IPS1). RIG-I detects various RNA viruses including influenza, hepatitis C, dengue, and SARS-CoV-2, recognizing 5'-triphosphorylated ssRNAs and dsRNAs with specific structural requirements. The protein localizes primarily to the cytoplasm, with additional presence at membrane ruffles, tight junctions, and cytoskeletal structures. The provided fragment encompasses the critical CARD1 and CARD2 domains, which are essential for the initial signaling events in RIG-I-mediated antiviral response pathways.