MCE MedChemExpress

Product Data Sheet

IFIH1 Protein, Human (His)

Cat. No.:	HY-P71641
Synonyms:	CADM-140 autoantigen; Clinically amyopathic dermatomyositis autoantigen 140kDa; DEAD/H (Asp Glu Ala Asp/His) box polypeptide; DEAD/H box polypeptide; Helicard; Helicase with 2 CARD domains; Hlcd; MDA-5
Species:	Human
Source:	E. coli
Accession:	Q9BYX4 (K700-D1025)
Gene ID:	64135
Molecular Weight:	Approximately 41.5 kDa

PROPERTIES

AA Sequence	KLTKLRNTIM EQYTRTEESA RGIIFTKTRQ SAYALSQWIT ENEKFAEVGV KAHHLIGAGH SSEFKPMTQN EQKEVISKFR TGKINLLIAT TVAEEGLDIK ECNIVIRYGL VTNEIAMVQA RGRARADEST YVLVAHSGSG VIEHETVNDF REKMMYKAIH CVQNMKPEEY AHKILELQMQ SIMEKKMKTK RNIAKHYKNN PSLITFLCKN CSVLACSGED IHVIEKMHHV NMTPEFKELY IVRENKALQK KCADYQINGE IICKCGQAWG TMMVHKGLDL PCLKIRNFVV VFKNNSTKKQ YKKWVELPIT FPNLDYSECC LFSDED
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm sterile filtered PBS, 6% Trehalose, pH 7.4
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	IFIH1 protein, as an innate immune receptor, functions as a cytoplasmic sensor for viral nucleic acids, playing a pivotal role in detecting viral infections and initiating a cascade of antiviral responses. It is essential for inducing type I interferons and

pro-inflammatory cytokines in response to viral stimuli. IFIH1 recognizes ligands such as mRNA lacking 2'-O-methylation at their 5' cap and long double-stranded RNA (>1 kb). Upon ligand binding, it associates with mitochondria antiviral signaling protein (MAVS/IPS1), activating the IKK-related kinases TBK1 and IKBKE, which phosphorylate interferon regulatory factors (IRF3 and IRF7), leading to the transcription of antiviral immunological genes, including interferons IFN-alpha and IFN-beta. The protein is responsible for detecting various viruses, including members of the Picornaviridae family, such as encephalomyocarditis virus (EMCV), mengo encephalomyocarditis virus (ENMG), rhinovirus, and SARS-CoV-2. IFIH1 is also involved in antiviral signaling against viruses with a double-stranded DNA genome, like vaccinia virus. Furthermore, it contributes to innate immune signaling amplification by recognizing RNA metabolites generated during virus infection by ribonuclease L (RNase L). Additionally, IFIH1 may enhance natural killer cell function and participate in growth inhibition and apoptosis in various tumor cell lines.

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