Datasheet for ABIN7555139

RAG1 Protein (AA 1-1043) (His tag)

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Overview

Quantity:	1 mg
Target:	RAG1
Protein Characteristics:	AA 1-1043
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This RAG1 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat RAG1 Protein expressed in mammalien cells.
Sequence:	MAASFPPTLG LSSAPDEIQH PHIKFSEWKF KLFRVRSFEK TPEEAQKEKK DSFEGKPSLE QSPAVLDKAD GQKPVPTQPL LKAHPKFSKK FHDNEKARGK AIHQANLRHL CRICGNSFRA DEHNRRYPVH GPVDGKTLGL LRKKEKRATS WPDLIAKVFR IDVKADVDSI HPTEFCHNCW SIMHRKFSSA PCEVYFPRNV TMEWHPHTPS CDICNTARRG LKRKSLQPNL QLSKKLKTVL DQARQARQHK RRAQARISSK DVMKKIANCS KIHLSTKLLA VDFPEHFVKS ISCQICEHIL ADPVETNCKH VFCRVCILRC LKVMGSYCPS CRYPCFPTDL ESPVKSFLSV LNSLMVKCPA KECNEEVSLE KYNHHISSHK ESKEIFVHIN KGGRPRQHLL SLTRRAQKHR LRELKLQVKA FADKEEGGDV KSVCMTLFLL ALRARNEHRQ ADELEAIMQG KGSGLQPAVC LAIRVNTFLS CSQYHKMYRT VKAITGRQIF QPLHALRNAE KVLLPGYHHF EWQPPLKNVS SSTDVGIIDG LSGLSSSVDD YPVDTIAKRF RYDSALVSAL MDMEEDILEG MRSQDLDDYL NGPFTVVVKE SCDGMGDVSE KHGSGPVVPE KAVRFSFTIM KITIAHSSQN VKVFEEAKPN SELCCKPLCL

Product Details

	MLADESDHET LTAILSPLIA EREAMKSSEL MLELGGILRT FKFIFRGTGY DEKLVREVEG LEASGSVYIC TLCDATRLEA SQNLVFHSIT RSHAENLERY EVWRSNPYHE SVEELRDRVK GVSAKPFIET VPSIDALHCD IGNAAEFYKI FQLEIGEVYK NPNASKEERK RWQATLDKHL RKKMNLKPIM RMNGNFARKL MTKETVDAVC ELIPSEERHE ALRELMDLYL KMKPVWRSSC PAKECPESLC QYSFNSQRFA ELLSTKFKYR YEGKITNYFH KTLAHVPEII ERDGSIGAWA SEGNESGNKL FRRFRKMNAR QSKCYEMEDV LKHHWLYTSK YLQKFMNAHN ALKTSGFTMN PQASLGDPLG IEDSLESQDS MEF **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**
Characteristics:	Key Benefits: • Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalien cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris Page, Western Blot
Grade:	custom-made

Target Details

Target:	RAG1
Alternative Name:	RAG1 (RAG1 Products)
Background:	V(D)J recombination-activating protein 1 (RAG-1) (RING finger protein 74) [Includes: Endonuclease RAG1 (EC 3.1.-.-), E3 ubiquitin-protein ligase RAG1 (EC 2.3.2.27) (RING-type E3 ubiquitin transferase RAG1)],FUNCTION: Catalytic component of the RAG complex, a multiprotein complex that mediates the DNA cleavage phase during V(D)J recombination.

Target Details

	V(D)J recombination assembles a diverse repertoire of immunoglobulin and T-cell receptor genes in developing B and T-lymphocytes through rearrangement of different V (variable), in some cases D (diversity), and J (joining) gene segments. In the RAG complex, RAG1 mediates the DNA-binding to the conserved recombination signal sequences (RSS) and catalyzes the DNA cleavage activities by introducing a double-strand break between the RSS and the adjacent coding segment. RAG2 is not a catalytic component but is required for all known catalytic activities. DNA cleavage occurs in 2 steps: a first nick is introduced in the top strand immediately upstream of the heptamer, generating a 3'-hydroxyl group that can attack the phosphodiester bond on the opposite strand in a direct transesterification reaction, thereby creating 4 DNA ends: 2 hairpin coding ends and 2 blunt, 5'-phosphorylated ends. The chromatin structure plays an essential role in the V(D)J recombination reactions and the presence of histone H3 trimethylated at 'Lys-4' (H3K4me3) stimulates both the nicking and haipinning steps. The RAG complex also plays a role in pre-B cell allelic exclusion, a process leading to expression of a single immunoglobulin heavy chain allele to enforce clonality and monospecific recognition by the B-cell antigen receptor (BCR) expressed on individual B-lymphocytes. The introduction of DNA breaks by the RAG complex on one immunoglobulin allele induces ATM-dependent repositioning of the other allele to pericentromeric heterochromatin, preventing accessibility to the RAG complex and recombination of the second allele. In addition to its endonuclease activity, RAG1 also acts as an E3 ubiquitin-protein ligase that mediates monoubiquitination of histone H3. Histone H3 monoubiquitination is required for the joining step of V(D)J recombination. Mediates polyubiquitination of KPNA1 (By similarity). {ECO:0000250}.
Molecular Weight:	119.1 kDa
UniProt:	P15918

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid

Handling

Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months

