

Datasheet for ABIN3133308 RAG2 Protein (AA 1-527) (His tag)



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Overview

Quantity:	1 mg
Target:	RAG2
Protein Characteristics:	AA 1-527
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This RAG2 protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS)

Product Details

Sequence:	<p>MSLQMTVGH NIALIQPGFS LMNFDGQVFF FGQKGWPKRS CPTGVFHFDI QQNHLKLKPA IFSKDSCYLP PLRYPATCSY KGSIDSDKHQ YIIHGGKTPN NELSDKIYIM SVACKNNKKV TFRCTEKDLV GDVPEPRYGH SIDVVYSRGK SMGVLFGGRS YMPSTQRTTE KWNSVADCLP HVFLIDFEFG CATSYILPEL QDGLSFHVS I ARNDTVYILG GHSLASNIRP ANLYRIRVDL PLGTPAVNCT VLPGGISVSS AILTQTNNDE FVIVGGYQLE NQKRMVCSLV SLGDNTIEIS EMETPDWTSD IKHSKIWFGS NMGNGTIFLG IPGDNKQAMS EAFYFYTLRC SEEDLSEDQK IVSNSQTSTE DPGDSTPFED SEEFCSAEA TSFDGDDEFD TYNEDEDEDDE SVTGYWITCC PTCDVDINTW VPFYSTELNK PAMIYCSHGD GHWWHAQCMD LEERTLIHLS EGSNKYYCNE HVQIARALQT PKRNPPLQKP PMKSLHKKGS GKVLTAKKS FLRRFLD</p> <p>Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.</p>
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Product Details

- Characteristics:
- Made in Germany - from design to production - by highly experienced protein experts.
 - Mouse Rag2 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
 - 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 will ensure that you receive a correctly folded protein.

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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm.

The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

- Purification:
- Two step purification of proteins expressed in baculovirus infected SF9 insect cells:
1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.
 2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

Purity: >95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Sterility: 0.22 µm filtered

Endotoxin Level: Protein is endotoxin free.

Grade: Crystallography grade

Target Details

Target:	RAG2
Alternative Name:	Rag2 (RAG2 Products)
Background:	<p>Core component of the RAG complex, a multiprotein complex that mediates the DNA cleavage phase during V(D)J recombination. 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. DNA cleavage by the RAG complex 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 hairpinning 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 the RAG complex, RAG2 is not the catalytic component but is required for all known catalytic activities mediated by RAG1. It probably acts as a sensor of chromatin state that recruits the RAG complex to H3K4me3. {ECO:0000269 PubMed:16111638, ECO:0000269 PubMed:19448632, ECO:0000269 PubMed:19524534, ECO:0000269 PubMed:2360047, ECO:0000269 PubMed:8521468, ECO:0000269 PubMed:9094713}.</p>
Molecular Weight:	60.0 kDa Including tag.
UniProt:	P21784
Pathways:	Chromatin Binding , Production of Molecular Mediator of Immune Response

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.
Comment:	Protein has not been tested for activity yet. In cases in which it is highly likely that the

Application Details

recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

Handling

Format:	Liquid
Buffer:	100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value 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:	Unlimited (if stored properly)

Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process