Recombinant RAG2 protein (His tag)

Catalog Number	542431
Synonyms	D; RAG-2
Species	Human
Expression System	E. coli
Accession	P55895
Molecular Weight	Predictes a molecular mass of 40.85 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 41 kDa band.

Product Information

Sequence Region	1-351
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 1-351 aa (P55895) 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 V(D)J recombination-activating protein 2 (RAG-2) fragment (amino acids 1-351) is a high-quality protein preparation ideal for studying the molecular mechanisms of V(D)J recombination. This stable and soluble fragment maintains key structural properties of the full-length protein, making it perfect for structural biology, biochemical assays, and immunological research. V(D)J recombination-activating protein 2 (RAG-2) is a core component of the RAG complex, which mediates the DNA cleavage phase during V(D)J recombination. This essential process assembles diverse immunoglobulin and T-cell receptor genes in developing B and T-lymphocytes through rearrangement of variable (V), diversity (D), and joining (J) gene segments. The RAG complex introduces DNA breaks in two steps: initial nicking followed by transesterification, generating hairpin coding ends and blunt, phosphorylated ends. RAG-2, while not catalytic itself, is required for all catalytic activities of RAG1 and functions as a chromatin state sensor that recruits the complex to histone H3 trimethylated at Lys-4 (H3K4me3). The protein also contributes to pre-B cell allelic exclusion, ensuring expression of a single immunoglobulin heavy chain allele to maintain clonality. RAG-2 is localized to the nucleus where it performs its essential functions in adaptive immune system development.