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Datasheet for ABIN912875

anti-RAG1 antibody (AA 351-450) (Alexa Fluor 647)

Overview

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| Quantity: | 100 µL |
| Target: | RAG1 |
| Binding Specificity: | AA 351-450 |
| Reactivity: | Mouse |
| Host: | Rabbit |
| Clonality: | Polyclonal |
| Conjugate: | This RAG1 antibody is conjugated to Alexa Fluor 647 |
| Application: | Western Blotting (WB), Flow Cytometry (FACS), Immunofluorescence (Cultured Cells) (IF (cc)), Immunofluorescence (Paraffin-embedded Sections) (IF (p)) |

Product Details

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| Immunogen: | KLH conjugated synthetic peptide derived from human RAG1/RNF74 |
| Isotype: | IgG |
| Cross-Reactivity: | Mouse |
| Predicted Reactivity: | Human,Rat,Sheep,Pig |
| Purification: | Purified by Protein A. |

Target Details

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| Target: | RAG1 |
| Alternative Name: | RNF74 (RAG1 Products) |

Target Details

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| Background: | <p>Synonyms: RAG-1, RNF74, V(D)J recombination-activating protein 1, RING finger protein 74, RAG1</p> <p>Background: Catalytic 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. 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 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 addition to its endonuclease activity, RAG1 also acts as a E3 ubiquitin-protein ligase that mediates monoubiquitination of histone H3. Histone H3 monoubiquitination is required for the joining step of V(D)J recombination.</p> |
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| Gene ID: | 5896 |
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| UniProt: | P15918 |
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Application Details

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| Application Notes: | FCM 1:20-100 IF(IHC-P) 1:50-200 IF(IHC-F) 1:50-200 IF(ICC) 1:50-200 |
| Restrictions: | For Research Use only |

Handling

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| Format: | Liquid |
| Concentration: | 1 µg/µL |
| Buffer: | Aqueous buffered solution containing 0.01M TBS (pH 7.4) with 1 % BSA, 0.03 % Proclin300 and 50 % Glycerol. |
| Preservative: | ProClin |
| Precaution of Use: | This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE, which should be handled by trained staff only. |
| Storage: | -20 °C |
| Storage Comment: | Store at -20°C. Aliquot into multiple vials to avoid repeated freeze-thaw cycles. |
| Expiry Date: | 12 months |