abcam

# Product datasheet

# Anti-RAG2 antibody ab95955

1 References　画像数 3

## 製品の概要

| | |
|---|---|
| **製品名** | Anti-RAG2 antibody |
| **製品の詳細** | Rabbit polyclonal to RAG2 |
| **由来種** | Rabbit |
| **アプリケーション** | **適用あり:** WB, IHC-P, ICC/IF |
| **種交差性** | **交差種:** Human<br>**交差が予測される動物種:** Mouse, Rat, Rabbit, Cow, Pig |
| **免疫原** | Recombinant fragment, corresponding to a region within amino acids 271 - 519 of Human RAG2 (UniProt ID: P55895). |
| **ポジティブ・コントロール** | WB: MOLT4 whole cell lysate ICC/IF: Hela cell IHC-P: DLD1 Xenograft Others: 293T, A431, H1299, HeLa, HepG2 and Raji cells |

## 法規制情報

医薬用外毒物

## 製品の特性

| | |
|---|---|
| **製品の状態** | Liquid |
| **保存方法** | Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles. |
| **バッファー** | Preservative: 0.01% Thimerosal (merthiolate)<br>Constituents: 10% Glycerol, 0.1M Tris, 0.1M Glycine, pH 7 |
| **精製度** | Immunogen affinity purified |
| **ポリ/モノ** | ポリクローナル |
| **アイソタイプ** | IgG |

## アプリケーション

Our Abpromise guarantee covers the use of **ab95955** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| アプリケーション | Abreviews | 特記事項 |
|---|---|---|
| WB | | 1/500 - 1/3000. Predicted molecular weight: 59 kDa. |
| IHC-P | | 1/100 - 1/500. |
| ICC/IF | | 1/100 - 1/200. |

## ターゲット情報

**機能**

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 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 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.

**組織特異性**

Cells of the B- and T-lymphocyte lineages.

**関連疾患**

Defects in RAG2 are a cause of combined cellular and humoral immune defects with granulomas (CHIDG) [MIM:233650]. CHIDG is an immunodeficiency disease with granulomas in the skin, mucous membranes, and internal organs. Other characteristics include hypogammaglobulinemia, a diminished number of T and B cells, and sparse thymic tissue on ultrasonography.
Defects in RAG2 are a cause of severe combined immunodeficiency autosomal recessive T-cell-negative/B-cell-negative/NK-cell-positive (T(-)B(-)NK(+) SCID) [MIM:601457]. A form of severe combined immunodeficiency (SCID), a genetically and clinically heterogeneous group of rare congenital disorders characterized by impairment of both humoral and cell-mediated immunity, leukopenia, and low or absent antibody levels. Patients present in infancy recurrent, persistent infections by opportunistic organisms. The common characteristic of all types of SCID is absence of T-cell-mediated cellular immunity due to a defect in T-cell development.
Defects in RAG2 are a cause of Omenn syndrome (OS) [MIM:603554]. OS is a severe immunodeficiency characterized by the presence of activated, anergic, oligoclonal T-cells, hypereosinophilia, and high IgE levels.

**配列類似性**

Belongs to the RAG2 family.
Contains 1 PHD-type zinc finger.

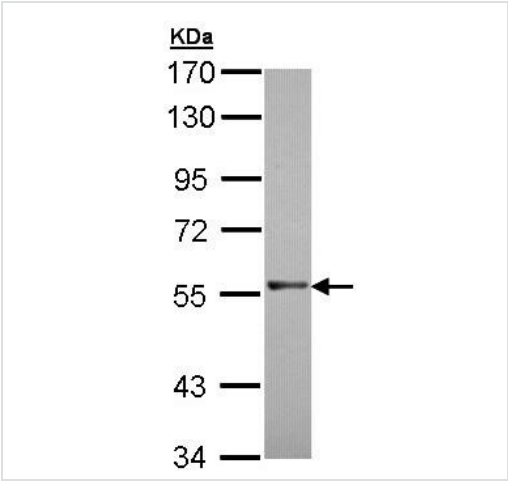
**ドメイン**

The atypical PHD-type zinc finger recognizes and binds histone H3 trimethylated on 'Lys-4' (H3K4me3). The presence Tyr-445 instead of a carboxylate in classical PHD-type zinc fingers

results in an enhanced binding to H3K4me3 in presence of dimethylated on 'Arg-2' (H3R2me2) rather than inhibited. The atypical PHD-type zinc finger also binds various phosphoinositides, such as phosphatidylinositol-3,4-bisphosphate binding (PtdIns(3,4)P2), phosphatidylinositol-3,5-bisphosphate binding (PtdIns(3,5)P2), phosphatidylinositol-4,5-bisphosphate (PtdIns(4,5)P2) and phosphatidylinositol-3,4,5-trisphosphate binding (PtdIns(3,4,5)P3).

**細胞内局在** Nucleus.

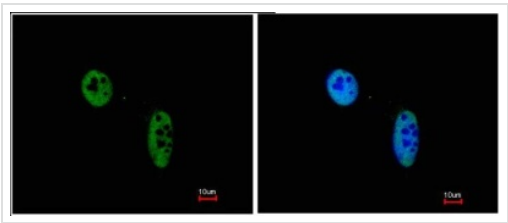
## 画像




Western blot - Anti-RAG2 antibody (ab95955)

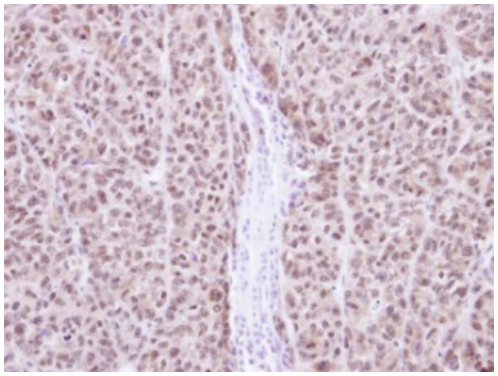
Anti-RAG2 antibody (ab95955) at 1/1000 dilution + MOLT4 whole cell lysate at 30 µg

**Predicted band size:** 59 kDa



Immunocytochemistry/ Immunofluorescence - Anti-RAG2 antibody (ab95955)

ab95955, at a 1/200 dilution, staining RAG2 in paraformaldehyde fixed HeLa by Immunofluorescence analysis.
The image on the right was co-stained using Hoechst 33342.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RAG2 antibody (ab95955)

ab95955, at a 1/100 dilution, staining RAG2 in paraffin embedded DLD1 Xenograft by Immunohistochemistry.



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