

RAG1 (D36B3) Rabbit mAb

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	119	Rabbit IgG	#P15918	5896

Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

RAG1 (D36B3) Rabbit mAb detects endogenous levels of total RAG1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant human RAG1 protein.

Background

The sequences encoding antigen receptors are split into multiple germline segments, which are then combined by a process called V(D)J recombination during immune cell development. A variable (V) segment is combined with a joining (J) segment, and in some cases, a diversity (D) segment, to create the antigen-binding portion of the receptor. The recombined V(D)J segment is then spliced into exons that encode the constant region to produce mature mRNA (1,2). This essential process required for the development of functional immune T and B cells creates a vast diversity in these receptors (3,4). Initiation of this process follows binding of RAG1 (recombination activating gene 1) and RAG2 to the conserved recombination signal sequences (RSS) and the introduction of a double-strand break between the RSS and the coding sequence (5,6). *RAG1* and *RAG2* genes are located immediately adjacent to each other in the genome and lack introns in their coding regions in many species. RAG1 and RAG2 are co-expressed only in the B and T cell lineages, and both are required for cleavage activity (7). RAG1 and RAG2 can also function as transposases, contributing to chromosomal translocations and lymphoid malignancy (8,9). Mutations in the RAG genes are associated with a spectrum of combined immune deficiencies in humans (10,11).

Background References

1. Schatz, D.G. (2004) *Semin Immunol* 16, 245-56.
2. Gellert, M. (2002) *Annu Rev Biochem* 71, 101-32.
3. Alt, F.W. et al. (1992) *Ann N Y Acad Sci* 651, 277-94.
4. Sadofsky, M.J. (2001) *Nucleic Acids Res* 29, 1399-409.
5. Swanson, P.C. (2004) *Immunol Rev* 200, 90-114.
6. Swanson, P.C. et al. (2009) *Adv Exp Med Biol* 650, 1-15.
7. Fugmann, S.D. et al. (2000) *Annu Rev Immunol* 18, 495-527.
8. Hiom, K. et al. (1998) *Cell* 94, 463-70.
9. Agrawal, A. et al. (1998) *Nature* 394, 744-51.
10. Villa, A. et al. (1999) *J Clin Immunol* 19, 87-97.
11. Corneo, B. et al. (2000) *J Biol Chem* 275, 12672-5.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.