

## Product datasheet for **RC205065**

### **RAG2 (NM\_000536) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	RAG2 (NM_000536) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	RAG2
Synonyms:	RAG-2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC205065 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCCTCTGCAGATGGTAACAGTCAGTAATAACATAGCCTTAATTCAGCCAGGCTTCTCACTGATGAATT  
 TTGATGGACAAGTTTTCTCTTTGGACAAAAAGGCTGGCCAAAAAGATCCTGCCCACTGGAGTTTTCCA  
 TCTGGATGTAAGCATAACCATGTCAAAGCTGAAGCCTACAATTTCTCTAAGGATTCCTGCTACCTCCCT  
 CCTCTTCGCTACCCAGCCACTTGACATTTCAAAGGCAGCTGGAGTCTGAAAAGCATCAATACATCATCC  
 ATGGAGGGAAAAACACAAACAATGAGGTTTCAGATAAGATTTATGTCATGTCTATTGTTTGAAGAACA  
 CAAAAAGTTACTTTTCGCTGCACAGAGAAAGACTTGGTAGGAGATGTTCTGAAGCCAGATATGGTCAT  
 TCCATTAATGTGGTGTACAGCCGAGGAAAAGTATGGGTGCTCTTTGGAGGACGCTCATAATGCCTT  
 CTACCCACAGAACCACAGAAAAATGGAATAGTGTAGCTGACTGCCTGCCCTGTGTTTTCTGGTGGATT  
 TGATTTGGGTGTCTACATCATACATTCTCCAGAACTTCAGGATGGGCTATCTTTTCATGTCTCTATT  
 GCCAAAAATGACACCATCTATATTTTAGGAGGACATTCCTTGCCAATAATATCCGGCCTGCCAACCTGT  
 ACAGAATAAGGGTTGATCTTCCCCTGGGTAGCCAGCTGTGAATTGCACAGTCTTGCCAGGAGGAATCTC  
 TGTCTCCAGTGAATCCTGACTCAAATAACAATGATGAATTTGTTATTGTTGGTGGCTATCAGCTTGAA  
 AATCAAAAAAGATGATCTGCAACATCATCTTTAGAGGACAACAAGATAGAAATTCGTGAGATGGAGA  
 CCCAGATTGGACCCAGACATTAAGCAGCAAGATATGGTTTGAAGCAACACGGGAAATGGAAGTGT  
 TTTTCTTGGCATAACCAGGAGACAATAACAAGTTGTTTCAGAAGGATTCTATTTCTATATGTTGAAATGT  
 GCTGAAGATGATACTAATGAAGAGCAGACAACATTCACAAACAGTCAAACATCAACAGAAGATCCAGGGG  
 ATTCCACTCCCTTTGAAGACTCTGAAGAATTTTGTTCAGTGCAGAAGCAAATAGTTTTGATGGTGATGA  
 TGAATTTGACACCTATAATGAAGATGATGAAGAAGATGAGTCTGAGACAGGCTACTGGATTACATGCTGC  
 CCTACTTGTGATGTGGATATCAACACTTGGGTACCATTCTATTCAACTGAGCTCAACAAACCCGCCATGA  
 TCTACTGCTCTCATGGGGATGGGCACTGGGTCCATGCTCAGTGCATGGATCTGGCAGAACGCACACTCAT  
 CCATCTGTGAGCAGGAAGCAACAAGTATTACTGCAATGAGCATGTGGAGATAGCAAGAGCTTACACACT  
 CCCCAAAGAGTCTACCTTAAAAAGCCTCCAATGAAATCCCTCCGTAAAAAGGTTCTGGAAAAATCT  
 TGACTCTGCCAAGAAATCCTTTCTTAGAAGGTTGTTTGTAT

**ACGGTACGGCGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT**  
**ACAAGGATGACGACGATAAGGTTTAA**

**Protein Sequence:**

>RC205065 protein sequence  
 Red=Cloning site Green=Tags(s)

MSLQMVTVSNNIALIQPGFSLMNFQGVFFFGQKGWPKRSCPTGVFHLVDVKNHVKLKPTIFSKDSCYLP  
 PLRYPATCTFKGSLESEKHQYIIHGKTPNNEVSDKIYVMSIVCKNNKVTFRCTEKDLVGDVPEARYGH  
 SINVVYSRKGSMGALFGGRSYMPSTHRTTEKWNSVADCLPCVFLVDFEFGCATSYILPELQDGLSFHVS  
 AKNDTIYILGGHSLANNIRPANLYRIRVDLPLGSPAVNCTVLPGGISVSSAILTQTNNDEFVIVGGYQLE  
 NQKRMICNIIISLEDNKIEIREMETPDWTPDIKHSKIWFGSNTGNGTVFLGIPGDNKQVVSEGFYFMYLKC  
 AEDDTNEEQTTFTNSQTSTEDPGDSTPFEDSEEFCSAEANSFDGDDEFDYNEDDEESETGYWITCC  
 PTCDVDINTWVPFYSTELNKPAMIYCSHGDDHWHVAQCMDLAERTLIHL SAGSNKYCCNEHVEIARALHT  
 PQRVLPKPKPPMKSLRKKGSGKILTPAKKSFLRRLFD

**TRTRPLEQKLISEEDLAANDILDYKDDDDKV**

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6208\\_b11.zip](https://cdn.origene.com/chromatograms/mk6208_b11.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_000536

**ORF Size:** 1581 bp

**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
  2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
  3. Close the tube and incubate for 10 minutes at room temperature.
  4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
  5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_000536.1](#), [NP\\_000527.1](#)

**RefSeq Size:** 2457 bp

**RefSeq ORF:** 1584 bp

**Locus ID:** 5897

**UniProt ID:** [P55895](#)

**Cytogenetics:** 11p12

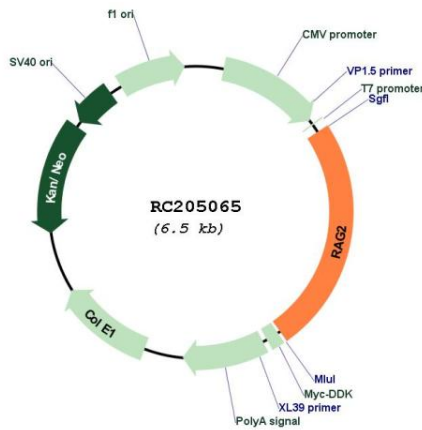
**Protein Families:** Druggable Genome

**Protein Pathways:** Primary immunodeficiency

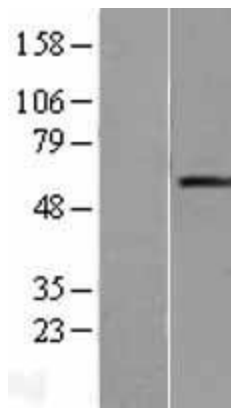
**MW:** 59.2 kDa

**Gene Summary:** This gene encodes a protein that is involved in the initiation of V(D)J recombination during B and T cell development. This protein forms a complex with the product of the adjacent recombination activating gene 1, and this complex can form double-strand breaks by cleaving DNA at conserved recombination signal sequences. The recombination activating gene 1 component is thought to contain most of the catalytic activity, while the N-terminal of the recombination activating gene 2 component is thought to form a six-bladed propeller in the active core that serves as a binding scaffold for the tight association of the complex with DNA. A C-terminal plant homeodomain finger-like motif in this protein is necessary for interactions with chromatin components, specifically with histone H3 that is trimethylated at lysine 4. Mutations in this gene cause Omenn syndrome, a form of severe combined immunodeficiency associated with autoimmune-like symptoms. [provided by RefSeq, Jul 2008]

**Product images:**



Circular map for RC205065



Western blot validation of overexpression lysate (Cat# [LY424659]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC205065 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).