

## Product datasheet for **SC323912**

### Adenosine Receptor A2a (ADORA2A) (NM\_000675) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Adenosine Receptor A2a (ADORA2A) (NM_000675) Human Untagged Clone
Tag:	Tag Free
Symbol:	Adenosine Receptor A2a
Synonyms:	A2aR; ADORA2; RDC8
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >OriGene sequence for NM\_000675.3  
 GCAGGAGCCGCCCCAGCCAAGCTGCTTTCAGCACAGCGTGGGCCCCAGCACCTTGGTG  
 CGGGGTGCGGCCCTCGGAGGAGGGTGTCAAGTGAAGCCTCGTGTGAGGGGGTGCCTCA  
 GGAACCTGAAGTGGGCTGAGCCATGATGCTGCTGCCAGAACCCTGCAGAGGGCTGG  
 TTTGAGGAGACTCAGAGTCTCTGTGAAAAAGCCCTTGGAGAGCGCCCAAGCAGGGCTGC  
 ACTTGGCTCCTGTGAGGAAGGGGCTCAGGGTCTGGGCCCTCCGCTGGGCCGGGCTGG  
 GAGCCAGGCGGGGGCTGGGCTGCAGCAATGGACCGTGAAGTGGCCAGCCCGCTCCGT  
 GCTGAGCCTGCCTGTCTGTGGCCATGCCATCATGGGCTCCTCGGTGTACATCACGG  
 TGGAGCTGGCCATTGCTGTGCTGGCCATCCTGGCAATGTGCTGGTGTGCTGGGCCGTGT  
 GGCTCAACAGCAACCTGCAGAACGTACCAACTACTTTTGGTGTCACTGGCGGGCGCCG  
 ACATCGCAGTGGGTGTGCTCGCCATCCCCTTGGCCATCACCATCAGCACCGGTTCTGCG  
 CTGCTGCCACGGCTGCCTTTCATTGCCTGCTTCTGCTGCTCCTCACGCAGAGCTCCA  
 TCTTCAGTCTCCTGGCCATCGCCATTGACCGTACATTGCCATCCGCATCCCGCTCCGGT  
 ACAATGGCTTGGTGACCGGCACGAGGGTAAGGGCATCATTGCCATCTGTGGGTGCTGT  
 CGTTTGCATCGCCTGACTCCCATGCTAGGTTGGAACAAGTGGGTCAGCCAAAGGAGG  
 GCAAGAACCCTCCAGGGCTGCGGGGAGGGCCAAGTGGCCTGTCTTTGAGGATGTGG  
 TCCCCATGAACATCATGGTGTACTTCAACTTCTTTGCCTGTGTGCTGGTCCCTGCTGC  
 TCATGCTGGGTGTCTATTTGCGGATCTTCTGGCGGCGGACGACAGTGAAGCAGATGG  
 AGAGCCAGCCTCTGCCGGGGAGCGGGCACGGTCCACACTGCAGAAGGAGGTCCATGCTG  
 CCAAGTCACTGGCCATCATTGTGGGGCTCTTGGCCCTCTGCTGGCTGCCCTACACATCA  
 TCAACTGCTTCACTTTCTTCCCGGACTGCAGCCACGCCCTCTCTGGCTCATGTACC  
 TGGCCATCGTCTCTCCACACCAATTCCGGTTGTAATCCCTTCACTACGCCTACCGTA  
 TCCGCGAGTTCGCCAGACCTTCCGCAAGATCATTGCGAGCCAGTCTGAGGCAGCAAG  
 AACCTTTCAAGGCAGCTGGCACCAAGTCCCGGGTCTTGGCAGCTATGGCAGTGACGGAG  
 AGCAGGTGAGCCTCCGTCTCAACGGCCACCCGCCAGGAGTGTGGGCCAACGGCAGTGCTC  
 CCCACCCTGAGCGGAGGCCAATGGCTACGCCCTGGGGTGGTGTGAGTGGAGGGAGTGCC  
 AAGAGTCCAGGGGAACACGGGCTCCAGACGTGGAGTCCCTTAGCCATGAGCTCAAGG  
 GAGTGTGCCAGAGCCCTGGCCTAGATGACCCCTGGCCAGGATGGAGCAGGAGTGT  
 CCTGATGATTCATGGAGTTTGGCCCTTCTAAGGGAAGGAGATCTTTATCTTTGTTG  
 GCTTGACCAGTACGTTGGGAGAAGAGAGAGAGTCCAGGAGACCCTGAGGGCAGCCGGT  
 TCCTACTTTGACTGAGAGAAGGGAGCCCAAGGCTGGAGCAGCATGAGGCCAGCAAGAA  
 GGGCTTGGTTCTGAGGAAGCAGATGTTTCATGCTGTGAGGCCTTGACCAAGGTGGGGG  
 CACAGCACAGCAGCATCTTTGCTGGGCAGGGCCAGCCCTCCACTGCAGAAGCATCTGG  
 AAGCACACCTTGTCTCCACAGAGCAGCTTGGGCACAGCAGACTGGCCTGGCCCTGAGAC  
 TGGGGAGTGGCTCCAACAGCCTCCTGCCACCCACACCACTCTCCCTAGACTCTCCTAG  
 GGTTCAGGAGTGTCTGGGCCAGAGGTGACATTTGACTTTTTTTCCAGGAAAAATGTAAG  
 TGTGAGGAAACCTTTTTATTTTATTACCTTCTACTCTCTGGTGTCTGGGTCTGCCGTCG  
 GTCCTGCTGCTAACCTGGCACCAGACCTCTGCCCGGGAGCCTCAGGCAGTCTCTCCT  
 GCTGTACAGCTGCCATCCACTTCTCAGTCCCAGGGCCATCTCTGGAGTGACAAAGCTG  
 GGATCAAGGACAGGGAGTTGTAACAGAGCAGTGCCAGAGCATGGGCCAGGTCCAGGGG  
 AGAGGTTGGGGCTGGCAGGCCCTGGCATGTGCTGAGTAGCGCAGAGCTACCCAGTGAGA  
 GGCTTGTCTAACTGCCTTCTCTTTAAAGGGAATGTTTTTTTTGAGATAAAATAAAAA  
 CGAGCCACATCGTGTTTAAGCTTGTCCAATGAAAAAAAAAAAAAAAAAAAAAAAAAAAA

**Restriction Sites:** ECoRI-NOT  
**ACCN:** NM\_000675

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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 TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

**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\\_000675.3](#), [NP\\_000666.2](#)

**RefSeq Size:** 2403 bp

**RefSeq ORF:** 1239 bp

**Locus ID:** 135

**UniProt ID:** [P29274](#)

**Cytogenetics:** 22q11.23

**Domains:** 7tm\_1

**Protein Families:** Druggable Genome, GPCR, Transmembrane

**Protein Pathways:** Calcium signaling pathway, Neuroactive ligand-receptor interaction, Vascular smooth muscle contraction

**Gene Summary:**

This gene encodes a member of the guanine nucleotide-binding protein (G protein)-coupled receptor (GPCR) superfamily, which is subdivided into classes and subtypes. The receptors are seven-pass transmembrane proteins that respond to extracellular cues and activate intracellular signal transduction pathways. This protein, an adenosine receptor of A2A subtype, uses adenosine as the preferred endogenous agonist and preferentially interacts with the G(s) and G(olf) family of G proteins to increase intracellular cAMP levels. It plays an important role in many biological functions, such as cardiac rhythm and circulation, cerebral and renal blood flow, immune function, pain regulation, and sleep. It has been implicated in pathophysiological conditions such as inflammatory diseases and neurodegenerative disorders. Alternative splicing results in multiple transcript variants. A read-through transcript composed of the upstream SPECC1L (sperm antigen with calponin homology and coiled-coil domains 1-like) and ADORA2A (adenosine A2a receptor) gene sequence has been identified, but it is thought to be non-coding. [provided by RefSeq, Jun 2013]

Transcript Variant: This variant (3) differs in the 5' UTR compared to variant 1. Variants, 1, 2, 3, 4, and 5 encode the same protein.