

## Product datasheet for **SC122272**

### CAD (BC014178) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CAD (BC014178) Human Untagged Clone
Tag:	Tag Free
Symbol:	CAD
Synonyms:	CDG1Z; EIEE50; GATD4
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL5</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:**

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>OriGene sequence for BC014178 edited
GGCACGAGGCCACCACAGCGGAGCATCCTGGAGCAGCTAGCTGAGAAAACTTTGAGCT
GGTGATTAACCTGTCAATGCGTGGAGCTGGGGCCGGCGTCTCTTCTTTGTCACCAA
GGGCTACCGCACCGACGCTTGGCCGCTGACTTCTCCGTGCCCTAATCATCGATATCAA
GTGCACAAACTTTTGTGGAGGCCCTAGGCCAGATCGGGCCAGCCCCTCTTTGAAGGT
GCATGTTGACTGTATGACCTCCAAAAGCTTGTGCGACTGCCGGATTGATTGATGTCCA
TGTGCACCTGCGGGAACCAAGTGGGACACATAAGGAGGACTTTGCTTCAGGCACAGCCGC
TGCCCTGGCTGGGGTATCACCATGGTGTGTGCCATGCCAATACCCGGCCCCCATCAT
TGACGCCCTGCTCTGGCCCTGGCCAGAAGCTGGCAGAGGCTGGCGCCCGGTGCGACTT
TGCGCTATTCTTGGGCCTCGTCTGAAAATGCAGGAACCTTGGGCACCGTGGCCGGGTC
TGCAGCCGGGCTGAAGCTTTACCTCAATGAGACCTTCTCTGAGCTGCGGCTGGACAGCGT
GGTCCAGTGGATGGAGCATTTGAGACATGGCCCTCCACCTCCCATTGTGGCTCACGC
GGAGCAGCAAACCGTGGCTGCTCCTCATGGTGGCTCAGCTCACTCAGCGCTCAGTGCA
CATATGTCACGTGGCACGAAGGAGGAGATCCTGCTAATTAAGCTGCAAAGGCACGGGG
CTTGCCAGTGACCTGCGAGGTGGCTCCCCACCCTGTTCTAAGCCATGATGACCTGGA
GGCCTGGGGCCTGGGAAGGGGGAGTCCGGCCTGAGCTTGGCTCCCGCCAGGATGTGGA
AGCCCTGTGGGAGAACATGGCTGTCATCGACTGCTTTGCCCTCAGACCATGCTCCCCATAC
CTTGGAGGAGAAGTGTGGGTCCAGGCCCCACCTGGGTTCCAGGGTTAGAGACCATGCT
GCCACTACTCCTGACGGCTGTAAGCGAGGGCCGGCTCAGCCTGGACGACCTGCTGCAGCG
ATTGCACCACAATCCTCGGCGCATCTTTACCTGCCTCCGAGGAGGACACCTATGTGGA
GGTGGATCTGGAGCATGAGTGGACAATCCAGCCACATGCCCTTCTCAAGGCCACTG
GACACCTTTTGAAGGGCAGAAAGTGAAGGGCACCGTCCGCCGTGGTCTGCGAGGGGA
GGTTGCCATATCGATGGCGAGTTCTGGTACCCCGGGCTATGGACAGGATGTACGGAA
GTGGCCACAGGGGCTGTTCTCAGTCCACCCTCAGCCCTGCCACTAGTGAGATGAC
CACGACACCTGAAAGACCCCGCCGTGGCATCCAGGGCTTCTGATGGCCGCTTCCATCT
GCCGCCCGAATCCATCGAGCCTCCGACCCAGGTTTCCAGCTGAGGAGCCAAAGGAGAA
GTCCTCTCGGAAGGTAGCCGAGCCAGAGCTGATGGGAACCCCTGATGGCACCTGTACCC
TCCACCACAGTACCGAGACAGGCATCTCCCAGAACCTGGGGACCCCTGGCTTGTGCA
CCCCAGACCTCACCCCTGCTGCACTCATTAGTGGCCAAACATATCCTGTCCGTCCAGCA
GTTACCAAGGATCAGATGTCTCACCTGTTCAATGTGGCACACACTGCGTATGATGGT
GCAGAAGGAGCGGAGCCTCGACATCCTGAAGGGGAAGGTATGGCCTCCATGTTCTATGA
AGTGAGCACACGACAGCAGCTCCTTTCAGCAGCCATGGCCCGCTGGGAGGTGCTGT
GCTCAGCTTCTCGAAAGCCACATCGTCCGTCCAGAAGGGCGAATCCCTGGCTGACTCCGT
GCAGACCATGAGCTGCTATGCCGACGTCGTGCTCCGGCACCCCCAGCCTGGAGCAGT
GGAGCTGGCCGCAAGCACTGCCGGAGGCCAGTATCAATGCTGGGGATGGGGTCGGAGA
GCACCCACCCAGGCCCTGCTGGACATCTTACCATCCGTGAGGAGCTGGGAAGTGTCAA
TGGCATGACGATCAGATGGTGGGTGACCTGAAGCACGGACGCACAGTACATTCCCTGGC
CTGCCTGCTCACCCAGTATCGTGTGACCTGCGCTACGTGGCACCTCCCAGCCTGCGCAT
GCCACCCACTGTGCGGGCCTTCTGGCCCTCCCGCGCACCAAGCAGGAGGAATTCGAGAG
CATTGAGGAGGCCGCTGCCTGACACTGATGTGCTTACATGACTCGAATCCAGAAGGAACG
ATTTGGCTTACCCAGGAGTACGAAGCTTGTCTTGGTCAAGTTCATCCTACTCCCCACAT
CATGACCCGGGCAAGAAGAAGATGGTGGTATGCACCCGATGCCCGTGTCAACGAGAT
AAGCGTGGAAAGTGGACTCGGATCCCCGCGCAGCCTACTCCGCCAGGCTGAGAACGGCAT
GTACATCCGATGGCTCTGTTAGCCACCCTGCTGGGCCGTTTCTAGGGCCTGGCTTCTC
AGCCTCTTCTTTAGGCCAGCTGCTGGGCAAGGAATCCAGTGCCTCTACGGGGGCA
GCACACTTAGATATTCCTGGACATCCAGATAGCTCACATGTGCTGACCACACTTCAGGCT
CTGGACTGGAGCTCTCTGGCATGGGGTGGGGCCTCAGATGCTGGGGCCAGTCTGCCCC
ATCTTCATTCTGACCTTAAACCTGTACAGTCATTTTTCTACTGACTTAATAAACAGCC
GAGCTGTCCCTTGAAAAAAAAAAAAAAAAAAAA
    
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<b>5' Read Nucleotide Sequence:</b>	>OriGene 5' read for BC014178 unedited NGGGATTTATTTGTATACCCTCATATAGGCGGCCGAGAAATTCGCACGAGGGCCACCAC AGCGGAGCATCCTGNGACAGCTAGCTGAGAAAACTTTGAGCTGGTGATTAACCTGTCAA TGCGTGGAGCTGGGGCCGGCGTCTCTCTTCTTTGTCACCAAGGGCTACCGCACCCGAC GCTTGGCCGCTGACTTCTCCGTGCCCTAATCATCGATATCAAGTGCACCAAACCTTTTG TGGAGGCCCTAGGCCAGATCGGGCCAGCCCTCCTTTGAAGGTGCATGTTGACTGTATGA CCTCCAAAAGCTTGTGCGACTGCCGGGATTGATTGATGCCATGTGCACCTGCGGGAAC CAGGTGGGACACATAAGGAGGACTTTGCTTCAGGCACAGCCGCTGCCCTGGCTGGGGTA TCACCATGGTGTGCCATGCCTAATACCCGGCCCCCATCATTGACGCCCTGCTCTGG CCCTGGCCAGAAGCTGGCAGAGGCTGGCGCCCGGTGCGACTTTGCGCTATTCCTGNGG CCTCGTCTGAAAATGCAGGAACCTGGGCACCGTGGCCGGGTCTGCAGCCGGGCTGAAGC TTTACCTCAATGAGACCTTCTCTGAGCTGCGGCTGGACAGCGTGGTCCAGTGGATGGAGC ATTTGAGACATGGCCCTCCACCTCCCATTGTGGCTCACGCGGAGCAGCAAACCGTGG CTGCTGCCTCATGGTGGCTCAGCTCACTCAGCGCTCAGTGCACATATGCACGTGGCAC GGAAGGAGGAGATCCTGCTAATTAAGCTGCAAAGGCACGGGGCTTGCCAGTGACCTGCA AGGTGGCTCCCAACCACCTNGTTCTAAACCATGATGACCTGAAGCGCTGGGGCTGGGAA
<b>Restriction Sites:</b>	Please inquire
<b>ACCN:</b>	BC014178
<b>Insert Size:</b>	2851 bp
<b>OTI Disclaimer:</b>	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">BC014178.1</a> , <a href="#">AAH14178.1</a>
<b>RefSeq Size:</b>	2851 bp
<b>Locus ID:</b>	790
<b>Cytogenetics:</b>	2p23.3
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Alanine, aspartate and glutamate metabolism, Metabolic pathways, Pyrimidine metabolism

**Gene Summary:**

The de novo synthesis of pyrimidine nucleotides is required for mammalian cells to proliferate. This gene encodes a trifunctional protein which is associated with the enzymatic activities of the first 3 enzymes in the 6-step pathway of pyrimidine biosynthesis: carbamoylphosphate synthetase (CPS II), aspartate transcarbamoylase, and dihydroorotase. This protein is regulated by the mitogen-activated protein kinase (MAPK) cascade, which indicates a direct link between activation of the MAPK cascade and de novo biosynthesis of pyrimidine nucleotides. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Apr 2015]